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THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

CONVENTION OF BREEDERS.—The convention of breeders heretofore called, by notice in the several Agricultural papers, to be held in New-York during the ensuing Fair of the American Institute, will commence its session at the Library of the Institute, on Tuesday evening, Oct. 17, at half past 7 o'clock, when it is hoped that all those who feel an interest in the objects for which it is called, will be present.

STATE CATTLE SHOW AND FAIR,
At Rochester, Sept. 20 and 21, 1843.

It will be seen by a notice in this paper, that a meeting of the Executive Committee of the N. Y. S. Ag. Society was held at Rochester, on the 12th ult., at which all the preparatory arrangements were made for the ensuing State Fair. The ground selected as the place of exhibition, is admirably fitted for the purpose, being elevated and dry, with a thick substantial turf, and situate on one of the principal streets, less than a mile from the center of the city, with a good M'Adam road and sidewalks leading to it. Eight or ten acres are to be enclosed with a high fence, in the center of which a building, 40 by 150 feet, is to be erected for the exhibition of Horticultural and Domestic products, in which, if we do not misjudge, the exhibition will far exceed any thing that has gone before it. We also anticipate an exhibition of farm stock in many respects superior even to that held in this city last autumn. There may not, and probably will not be as great a number of pure bred cattle as at Albany, but in mixed and native breeds—in horses, working oxen and steers, Western New-York can, if she will but come up to the work, far excel the show here; and in sheep and swine they can at least equal us. The farmers of western New-York, and of the Genesee Valley particularly, should remember that their reputation is at stake, and bring up the finest of their flocks and herds to the Show; if they do not, their beautiful and fertile Valley will lose, in a great measure, the high esteem in which it is now held by the multitude who will visit the Fair, not only from other sections of their own state, but from all the other states and from the Canadas. But we do not apprehend any failure on their part; and we say then to our readers and friends in all sections, prepare yourselves to meet with us on this great holiday of our farmers, for here you shall see and hear that which will raise your idea of the dignity of your profession, and excite an increased desire for the attainment of that "improvement of the mind and the soil," by which alone you can acquire your just rank in our civil and social relations, and secure the just reward which is ever returned by an all-bountiful Providence to him who tills the earth with industry and intelligence.

During the Fair there will be an Address delivered by one of our most eminent statesmen, and a public dinner, the arrangements for which will be such, we trust, as to draw together around the festive board, a large number of the elite of our husbandmen and citizens.

The Executive Committee were very much gratified by the warm interest manifested by such of the citizens of Rochester as were present at their late meeting, and the determination expressed by them to do every thing necessary on their part to give interest to the Fair, and to crown with success the labors of the Society.

MONTHLY NOTICES.

COMMUNICATIONS have been received since our last, from Lytleton Physick, Seth Whalen, S. Peck, T. M. Niven, John R. Blair, S. Fouché, Richmond, H. W. S. C., A Subscriber, Wm. Jennison, A. E. Cowles, Alex. McDonald, D., D. C. Goodale, R. Harmon, Jr., J. R. A., A Lover of Science, S. F. Vinton, A Saratoga Co. Farmer, D. K. Minor, A Subscriber at Liberty Mills., A. B. N., S. W. Jewett.

ACKNOWLEDGMENTS.—The pair of Capons sent us by Dr. J. N. KEELER, Pemberton, N. J., and for which he has our thanks, came safe to hand. We shall endeavor to give a good account of them after Christmas.—We are under renewed obligations to the Editors of the *New Farmer's Journal*, London, for the continued files of that excellent paper, which are regularly received by the steamers at Boston. It will give us pleasure to return the favor in any way in our power.—To some unknown friend in London, we are indebted for the nos. of the *Mark Lane Express* of June 26, and July 3.—To J. H. KING, Esq. Georgetown, D. C., for the *Georgetown Advocate*, containing a notice of the seventeen year locusts.—To D. K. MINOR, New-York, for copies of Part III. of Prof. Johnston's "Lectures on the applications of Chemistry and Geology to Agriculture."—To the Author, for a copy of "Thirty Years from Home, or a Voice from the Main Deck, by Samuel Leech."—To the Editors, for the Prize List of the Tompkins Ag. Society.—To J. J. THOMAS, for the Prize List of the Wayne Co. Ag. Society.—To J. BUEL, Esq. for early Potatoes.—To the Publishers, for Parts 10 and 11, of the *Farmer's Encyclopedia*.

J. W., *Lafayette*.—Your suggestion is under consideration, and we think it not unlikely the course recommended may be adopted another year.

A SUBSCRIBER, *Marietta, Pa.*—We will publish the plans and information asked for, as soon as they can be procured.

A SARATOGA CO. FARMER will find his inquiry answered on page 123 of this paper.

A. M'D., *Barbor co., Ala.*—Good milch cows, of the common breed of the country, can be had at \$25 to \$50, according to quality. As any considerable number would have to be selected from different lots, there would be no reduction on account of the number being increased.

"A Subscriber," at Liberty Mills, Va., shall be attended to in due time.

✂ An answer to the inquiry of our friend Z. D., we find is accidentally omitted. It will appear next month.

CORNSTALK SUGAR.—The letter of our correspondent on the subject of the premium offered by the State Society for the best experiment in making sugar from the Cornstalk, and expressing the wish that the requirement of iron rollers might be omitted, was submitted to the Board at its last meeting; but the object of the Society being to ascertain the maximum quantity to be obtained from an acre, which it was thought could not be obtained by wooden rollers, they declined making the change asked for. The same correspondent suggests that owing to the backwardness of the corn crop, it may not be possible to complete the experiment in season to report at the State Fair in September. Should this be the case, the question will undoubtedly be left for decision at the annual meeting in January next. We should be glad to hear whether any, and how many, are preparing to compete for the \$100 premium offered by the Society.

FRUIT TREES.—The letter of Mr. CHARLES HAMILTON, together with a Catalogue of his Nursery at Canterbury, Orange co., N. Y., has been received. Mr. H. says he has added to his collection an Apple called the Summer Spitzenburgh, valuable for its early maturity—a Plum called the Winter Bolmar, very late and good, and a Pear, which he has named Rip Van Winkle. The scions from which this pear is grown, are taken from a seedling tree, which he says has borne fruit every year but one since 1816, when it first commenced bearing. If we understand his letter aright, the fruit commences ripening the latter part of August, and continues to ripen for two months, so that ripe fruit can be picked from it from the last of August to the last of October. We shall be glad to receive a more particular description of the tree, with the fruit he proposes to send us. It may be sent by any of the steamboats coming to this city from New-York. A part of the fruit promised us, shall be sent to the Mass. Hort. Society.

Moore co., N. C., July 1, 1843.—"With but little trouble, I have been enabled to procure you eight good subscribers, and enclosed you will find eight dollars to pay

for them. This has only cost the ride of a few hours, and think in a short time I can send you a few more. I would have been a subscriber long ago to the *Cultivator*, had I known how very valuable it was, even to a southern planter. We are near a hundred years behind your New-York farming; but I am happy to say that within a few years I have seen much improvement, for we are absolutely beginning to manure now, which was not the case a few years ago. We are gradually quitting cotton in this section, which I hail as an omen of better times for the farmers, for it is difficult to improve or even to keep up a cotton plantation."

THE WHEAT CROP.—We give, in another part of this paper, a letter from Gen. HARMON of Wheatland, in which he expresses the opinion that the wheat crop of Western New-York will not this year produce much over half the ordinary yield. This falling off, however, will not, in our opinion, materially affect the prices of this great staple, inasmuch as from what we hear from all sections of our country where wheat is grown, we are inclined to believe that the total amount produced will fully equal if not exceed any previous crop. In some sections the causes mentioned by Gen. H., and the severe winter, have nearly destroyed the crop, so much so indeed that in many places the seed even will not be returned; but in other and much larger portions of the wheat growing districts, the yield will be a bountiful one.

SEED WHEAT.—While at Rochester recently, we had the pleasure of examining various specimens of wheat on the stalk, from the experiment field of Gen. Harmon, who is performing a most important service for our wheat growers, by the care with which he is testing by actual experiment, all the different varieties of wheat which promise to be an acquisition to our country. Among the specimens exhibited, were the Talavera, White Providence, Mediterranean, Virginia May, Wheatland Red, Hutchinson, Soules, and White Flint. To the latter, so long cultivated in the Genesee Valley, Gen. H. gives the preference over all others; but he thinks that some of the other kinds, when they become thoroughly acclimated, may prove of equal or greater value; and that their merits may be thoroughly tested, he will continue to cultivate all these and many other varieties in his "experiment field," from which he hopes ere long to produce some kinds of very superior quality. We trust he will succeed, but in any event he will richly deserve the thanks of our wheat growers for his persevering and well directed efforts.

Davenport, Iowa, July 7, 1843.—"Our wheat crop in this vicinity, and south in this territory, is nearly all destroyed. In Scott county, we shall not harvest as many bushels as we sowed, and my own case is that of every body else. From fifty acres of winter wheat, I shall not harvest as many bushels. From the Maquoketa river north, both in Iowa and Wisconsin, the wheat crop never looked better. Our own loss is attributable to the severe winter and the want of snow in January and February."

✂ A list of Cattle Shows to be held this season, prepared for this number, is necessarily deferred till our next.

EFFECT OF PLASTER IN HASTENING THE MATURITY OF PLANTS.

A correspondent in Louisiana, J. PRITCHARD, Esq., says he has seen it stated that manuring corn with gypsum hastens its maturity some ten or twelve days, and asks whether such is the fact; suggesting at the same time, that if that substance on trial should produce the same effect on the cane, it would be invaluable, as the cane rarely is all matured previous to the approach of frost.

There can be no doubt that all manures that are so applied as to promote the early growth of a plant, will in the same degree hasten its maturity. Every farmer knows that the corn first fit to roast, and first ripe, is in those parts of his field where the early growth of the plants was the most vigorous and best sustained. Immature corn is found where the growth has been slow from the first, or where, if rapid, it has been confined to the latter part of the season. The cause of this is obvious to all; arising as it does from the want of the elaborated juices necessary to the perfection of the seed. Any course of treatment that will hasten the growth of the sugar cane in the early part of its growth, will in the same degree hasten its maturity. Whether plaster will do this, can be easily ascertained by experiment; although as they belong to the same family of plants, it is natural to suppose the effect on sugar cane would be the same as on corn.

THE HOFWYL AGRICULTURAL ESTABLISHMENT

MORE than thirty years ago, a gentleman, the head of a respectable patrician family in the vicinity of Berne in Switzerland, strongly impressed with the wretched condition and ignorance of the peasantry around him; the miserable condition of their agriculture and agricultural implements; and the necessity of doing something for the amelioration of the laboring classes, conceived the idea of forming an establishment, which, beginning with the simplest elements of knowledge, should in its course ascend to the highest branches of science, embracing in a prominent manner the subject of agriculture, which he justly considered as deserving the first place in direct importance and utility. This gentleman, whose name was Fellenberg, possessed, about four miles from the city, an hereditary estate yielding at that time an income of about \$2,000 per annum. The land forms part of a fine plain, surrounded by hills, and interspersed with woods; and the house and pleasure grounds are placed nearly in the center of the domain.

The establishment of Hofwyl is divided into four parts, and is probably one of the most complete and efficient in all its divisions, of any similar school in the world; indeed it may be said that Hofwyl has been the model upon which all others have been to a greater or less degree founded. It is remarkable that from the first, Mr. Fellenberg met with every kind of discouragement from those from whom he had a right to expect better things. Instead of lending him aid, the government interfered in every disagreeable and vexatious way; the common people regarded him as an enthusiast and visionary; while the patricians accused him of lowering his dignity and theirs, by condescending to engage in any pursuit that could render him useful to his fellow men. At first his plans were denounced as leading to his certain ruin; but when they saw that all his operations were gradually but surely succeeding, that pupils were flocking to Hofwyl, that the farm was constantly improving, that the marshes were drained, the soil rendered productive, fine crops taking the place of weeds, and that his poor laborers were rapidly bettering their habits and condition, while his income was increasing, then he was attacked as a selfish money making person, who under the garb of benevolence, was carrying on plans of avarice. Fortunately, Mr. Fellenberg was as unmoved by their clamors in one respect as the other, and pursued the even tenor of his way, introducing improvements as they were needed or suggested, and constantly extending his sphere of operations and usefulness.

The Hofwyl establishment embraces—1st. A school for the poor, somewhat on the principle of the manual labor system. With this is connected a farm of about 200 acres, which is under the immediate supervision of Mr. Fellenberg, and is principally cultivated by the pupils of the school, which usually number between 30 and 40. 2d. An academy for the sons of wealthier persons, and usually has from 50 to 60 pupils, principally from patrician families. At the time Mr. Brougham was there, seven or eight German princes, and many young nobles, were in this department, in which every branch of useful and elegant learning is taught by eminent professors, whose moral character and manners, are particularly attended to, in making the selection. 3d. An agricultural institute, with which is connected a small experimental farm, where the different kinds of plants, modes of culture, and improved or new implements, are submitted to a full and accurate trial. The regular students of this department usually number about twenty, and are more advanced in years than the pupils of the first section. They are carefully instructed in every thing relating to the science and practice of agriculture, hold daily conversations on the subject, have access to an extensive laboratory, cabinets of natural history, and philosophical apparatus, and witness all farming operations submitted to the test of actual experiment. 4th. A manufactory of farming machinery and implements. This is divided into two branches: one of common husbandry implements, the other for making experiments and improvements, and the first part defrays the expenses of the last. In this department of the establishment, the pupils of the academy are instructed in the handicraft arts; those of the institute in those connected with agriculture; and the poor boys of the farm, in such trades as may in after life afford them an honorable livelihood.

There is no doubt that the most interesting part of this establishment is the first, or the department for the education of the poor, which is under the personal supervision of Mr. Fellenberg; as by that the character of the poor laborers of the Canton has been much improved, as well as their condition bettered. It is by the action of the institute, or the third department, that the influence and fame of the school has been most spread, however, as from the graduates of this part, most of those chosen to superintend the many similar establishments that are springing up in European countries, have been selected. The pupils in the first department eat at Mr. Fellenberg's table, are all treated in precisely the same manner, all labor the same number of hours, and are all subjected to a constant and minute superintendence, in which the chief superintendent under Mr. Fellenberg, is much aided by the older boys, who have already become familiar with the studies, as well as the labors prescribed. Any of the pupils of the first department may continue the course in the second and third, if their means will admit, which but very few of the peasantry can do. The amount of agricultural products from the farm of the first department is very great, and the management is such as to command universal admiration.

On the plan of the establishment at Hofwyl, and principally under the direction of graduates from that place, numerous schools intended to promote the cause of agriculture and morals, have arisen in Germany; and their example has not been lost on other nations of Europe. One of the most extensive and successful of these schools is the one established at Kesthely in Hungary, by Count Festetics; and of which an interesting account is given in Bright's travels. This school provides for eight or ten pensioners, and as many independent students are admitted as choose to attend. The course lasts three years, and on a large experimental farm, all the details of agriculture, the management of forest and fruit trees, and the care of cattle, sheep, &c., are taught in the most scientific and practical manner. Connected with this establishment, is one in which girls are educated and instructed in the duties of housekeepers, management of dairies, &c. It is believed that not a single agricultural establishment of this kind abroad, has failed of realizing the high expectations of the founders, and they are now exercising a most healthy and salutary influence on the agricultural condition of Europe.

There seems to be a general impression in this country, that a large capital, and an extensive array of buildings, library, professorships, apparatus, &c. is necessary to commence an agricultural school. No idea can be more mistaken or fallacious. The necessary buildings for the pupils; a good farm, embracing a sufficient variety of soils for cultivation, and for illustrating the various operations of agriculture; a thorough, practical farmer, to oversee and manage the field operations; and a superintendent of judgment and science, are sufficient for all practical purposes at the outset. The library, and the required apparatus, need not be extensive at the beginning, and may be increased as the means are provided, and the course of labor and studies demand. Every thing about such an institution should be thoroughly imbued with the practical; for the visionary no room should be permitted. The order should be strict and undeviating; the government parental and mild, yet firm and unhesitating. There is a deep religious feeling, not a fanatic or enthusiastic one, pervading the Hofwyl establishment, which produces a most salutary influence, and without which, in a greater or less degree, the minds of the young are never trained to those habits of thought and inquiry so essential to the perfect man.

We have already had the pleasure of announcing to the readers of the Cultivator, the commencement of two agricultural schools in this country; that of Elm Craig near Nashville, Tennessee, under the superintendence of Mr. Fanning, one of the editors of the Agriculturist, and that of Eden Hill Farm Institute, on the banks of the Delaware, near Philadelphia, under the direction of Mr. Pedder, the conductor of the Farmer's Cabinet. It is needless to say, we expect much from these schools; the character of the men engaged justifies such anticipations. From these germs we hope to see similar institutions spreading, until every state at least, shall be provided with a well conducted Agricultural Institute. We hope another year will not pass, without one or more schools worthy of the state of New-York, being put in operation among us. We have pointed out above the indispensable things. An annual fee for admission from the pupils, would provide the means of lectures on Natural History, Chemistry, &c. &c.; cabinets of mineralogy, geology, and the other departments of the natural sciences would soon grow up and become extensive, under the fostering care of competent instructors; thorough instruction in all the branches of education necessary to qualify the man for the active business of life might be easily added where desired; and a full and complete course of agriculture in theory and practice, would soon render such schools a place far preferable and less expensive than most of our higher schools and colleges. Who can doubt that for men who are training for utility rather than for show, for action rather than for idleness, such institutions would soon receive the preference they would deserve? A kind Providence has decreed that we must remain as we are, essentially an agricultural people; a condition of all others the best adapted to promote health, happiness, and individual and national virtue; and we must be culpably neglectful of these best endowments of heaven, if we suffer any means to be unimproved calculated to advance this great cause.

A VIRGINIA FARM.

A correspondent of the Boston Traveler, writing from the valley of the Shenandoah, last autumn, gives the following account of the Steenbergen farm, situated in that valley, some 40 miles above Winchester. Few parts of the U. States afford examples of more fertile soils, and few instances of better cultivated farms than the rich valley of the Shenandoah.

"On ascending the opposite bank of the river, we entered the extensive grounds of the celebrated Steenbergen farm, a view of which is worth a day's journey in more oppressive heat than we experienced to-day. The farm consists of 7,000 acres, a large portion of interval or bottom land, and nearly the whole is under cultivation. The family mansion is beautifully situated on rising ground, overlooking the whole area, and the farm houses are conveniently arranged in the vicinity for the overseers and slaves. The hay crop was gathered, and the quantity may be judged from the fact that from 1,500 to 2,000 head of cattle are kept on the premises. The wheat too, between 400 and 500 acres, had been harvested, and much of it was already threshed and sent to market. Our road passed through a luxuriant field of

corn, nearly ripe, embracing a level tract of 600 acres, and a richer sight for the lover of scientific husbandry I have never seen. Mr. Steenbergen, who owned this unrivaled farm, and by his agricultural skill, extraordinary energy and perseverance, in a few years greatly improved the strength of the soil, rendered the property more valuable, probably, than any other farm in the U. States."

We may add here, as a warning to others, that not satisfied with this farm, Mr. S. became infected with the speculating notions at one time so prevalent; that he was with many others unfortunate, and when he failed some three or four years since, his liabilities amounted to more than a million and a half, of which about \$650,000 was to the U. S. Bank. Mr. S. is now a resident of La Porte, Ind., and his farm has passed into the hands of Mr. Munn of Lynchburgh, Va.

SUMMER FALLOW—SOWING WHEAT.

In a large part of our country where wheat is grown, summer fallowing, or the previous preparation of that crop by plowing, harrowing, &c. is indispensable to the success of a crop; and as cultivation is extended and continued, the practice must more widely prevail. The necessity of summer fallows seems to arise at present, from the necessity of the course for cleaning the soil; as owing to imperfect farming, and careless culture, most farms are so overrun with weeds, that unless some thorough measures are taken for their destruction, the crop of grain appears to be considered by them as an intruder, and stands but a poor chance of success. Another benefit is undoubtedly derived from the pulverization and aeration of the soil, which affords the roots of plants a much better opportunity of seeking their food, and receiving those supplies through the medium of atmospheric agency, which are essential to their growth. Now and then, indeed, an individual who manages better than his neighbors; who has guarded against the introduction and spread of weeds, or by skillful culture has eradicated them; who by a proper rotation and manuring, has made his whole farm capable of the production of any crop; and who by draining or deep plowing has given a fineness, dryness and depth, that renders summer fallowing unnecessary, dispenses with this laborious process, and putting in his wheat after corn, peas, or roots, gives these the first benefit of his manures, and finds the crop produced in the place of a fallow, a clear gain. But such farms are rare, and only serve to show what we have a right to expect, when a better and more rational system of treating the soil shall prevail. At present it must be conceded, that in general summer fallows are necessary, and that unless every part of the farm submitted to cropping is occasionally fallowed, it will soon become so foul as to be unfit for the production of grain.

The man who has a clean farm, and on which fallowing is unnecessary, either draws his manure in the fall or spring upon the land he intends to plant, which is generally in meadow or pasture, spreads it, and then skillfully buries it with his plow. On this his corn is planted or his roots sown, which require little labor to keep them clean, but keeps all weeds away, and the soil light and fit for the succeeding crop. The corn is cut in season and removed from the field, when a single thorough plowing with suitable harrows, is all that is necessary for putting in the wheat; and the same may be said, where on such farms, peas or roots are substituted for the corn crop. Now when it is recollected that but little more labor is required to grow the corn crop than to summer fallow the same ground properly, for unless this process is well and effectually done, it does more hurt than good, only serving the purpose of cultivating weeds it should destroy, the advantages of placing land in such a state as to render a fallow unnecessary, will be apparent to all. Not less than three plowings should be given to a fallow, and these must be increased in number as the condition of the soil demands. There should not at the close, or when the ground is fitted for the seed, be a single green thing in the soil; the repeated plowings will turn up what seeds former growths of weeds may have deposited, and if the successive plowings are judiciously distributed, the young plants or sprouting roots will be destroyed as fast as they appear.

Whatever may be the condition or state of the soil at the outset, calculation should be made to have all the labor done by the first of September, that the seeding may be completed by the middle of that month. An examination of the wheat crop for a succession of years shows that the best crops are produced when the seeding takes place between the fifth and the fifteenth of that month, the plant escaping our two great enemies, the fly and the frost, is better if sown within those periods than at any other. If earlier, the danger is from the fly; if later, from the effects of the winter. The difference between sowing at the proper time, and at too late a one, has received a striking illustration at the north the present year. During the latter part of August, and the fore part of September of last year, we performed a journey of some extent, part of it through some of the finest wheat districts of the state. Very few farmers had sown their wheat, though many had about completed their preparations, when about the fifth of the month that protracted rain set in, which compelled farmers to suspend all their farming operations, and prevented the greater part of the seeding until after the 20th. We have within a few weeks had an opportunity of going over a part of the same ground, and with a few exceptions, the fields sown previous to the rains, are much better than those sown during them, or after they were over. This may be, it is true, partly accounted for by the more unfavorable

condition of the soil, owing to the rains, of the latest sowings, but more we think is owing to the lateness of the season when the seed was put in. We are sorry to say that so far as our observation has extended, the present prospect of the wheat crop is any thing but flattering; and it is now too late for any material improvement to take place. In other parts of the country, however, appearances are more favorable, and such is the extent of our territory, and the variety of our soils and climates, that we have little reason to apprehend any great annual variation in the actual quantity of wheat produced within our limits.

SORREL—OXALIC ACID—LIME AN ANTIDOTE.

As our answer to an Inquirer, in a late number of the Cultivator, recommending the use of lime as a remedy for sorrel, which we attributed to a *sour soil*, has elicited some discussion in the agricultural journals, some writers appearing to dissent from our position, we are happy to give place to the following paper from a source entitled to the highest consideration in every thing relating to Agricultural Chemistry. The paper was called out by an appeal to Dr. DANA, through the columns of the N. E. Farmer, in which journal of June 14, it is to be found. The agricultural public are certainly much indebted to Dr. Dana for the readiness, as well as the skill, with which he enters upon all such subjects; thus applying to objects of the greatest practical utility, the vast resources supplied by his chemical knowledge. It is unnecessary to say that he fully sustains the position taken by us, of the value of lime as a neutralizer of acids in the soil, a position controverted by some, and doubted by others. We may add here, as some doubts have been expressed on the subject, and Dr. D. does not advert to the matter, that the acid of sorrel, both wood sorrel and common sorrel, of beech and hemlock leaves, of bistort, rhubarb or pie plant, and several other plants and lichens, is oxalic; and as it has been stated by some writers, that "no acid exists in vegetables except in a state of combination with some alkali," reference may be made to the chick pea of Egypt and the south of France, (*Cicer arietinum*), in which crystals of uncombined oxalic acid are formed by evaporation.

[From the New England Farmer.]

Mr. Darling has stated in his extract from Dr. Kane, and in his own remarks, (see N. E. Farm. May 17,) the well known, long received, and established chemistry of the organic acids of plants, and their transformations. To recall this to mind, I would state the main facts, as chemists understand them, relating to oxalic acid:

1st. Plants form oxalic acid. Almost every, perhaps all, plants contain this acid. The soil seldom contains traces of oxalic acid. Whenever it is there found, it has proceeded from organic decomposition & decaying plants. That plants form this acid, is evident from the fact that some lichens grown on naked granitic rocks, contain from 20 to 66 per cent of oxalate of lime.

2d. Oxalic acid does not exist in plants free. It is always combined with a base—generally with lime or potash. In sorrel, (including in this both wood and common sheep's sorrel—*oxalis* and *rumex*), the oxalic acid exists as super oxalate of potash. Each portion of potash is combined with four portions of acid. The salt of sorrel is the *salt of lemons* of the shops.

3d. These bases, lime and potash, are essential to the formation of oxalic acid by plants. The plants never form bases. They are derived from the soil or air. Hence, before the oxalate-forming plant, sorrel, can grow, the bases to saturate its acid as it is formed, must freely exist in soil.

4th. Oxalic acid is composed of—carbon, two parts; oxygen, three parts. We cannot, plants probably do not, form oxalic acid by the direct union of its elements. We can, and do, for the arts, transform starch and sugar, by the aid of aquafortis, into oxalic acid. So plants, wonderfully more exquisite in their laboratory, transform sugar, starch and gum into oxalic acid. If we, in our imitation of nature, require the strongest acid, her delicate hand may effect a similar transformation by the aid of such weak acids as vinegar, and the organic acids found in muck and soil. There is some reason for this belief, when we call to mind the fact, that without any fermentation, sugar is easily transformed by weak vinegar into vinegar. This is a well known process. I go farther: plants transform these weak acids into oxalic acid. This is the great source of that acid. We have only to deprive, as does the plant, vinegar of its hydrogen, and double its oxygen, to convert it into oxalic acid. This is done by the oxalate-forming plant simply by the aid of oxygen only, as we in our process of art, change alcohol to vinegar by a current of air and the aid of a ferment. Life is this ferment in the plant. Oxygen in either case effects all the other change.

To apply these principles to the remarks of "D." it has been shown that lime and potash are essential to the existence of oxalate-forming plants, as sorrel; that weak organic acids are easily transformed into oxalic acid. When, therefore, such acids dissolve, and supply easily the lime and potash to the plant, the acids being in excess, (for we have seen that the salt of sorrel is a super salt,) these oxalates will be formed. In other words, sorrel grows best where free acids and small portions of alkali exist. By applying sour muck, filled with weak organic acids and their bases to soil, we supply it with the food of sorrel. Lime, or potash only, is not this food. Dissolve these bases by weak organic acids, form super salts of them, and you may expect to find, *yes*, you do find, oxalates produced, sorrel growing.

But it is said that the common chemical doctrine of the agricultural press is wrong. What is that doctrine? *Neutralize the free acids—take the sour out of the soil*, and sorrel grows not. The doctrine is *neutralize*. All hangs on that word. If you only *partially* neutralize, you supply the sorrel with its natural food—an acid salt. You feed it both with its acid in excess, to be converted into oxygen, and the base with which that acid is to combine. You give the sorrel in the same spoon, both its solid and liquid food: these acid salts are the hasty pudding of plants.

But is it possible that "a coat of lime two inches thick," does not neutralize the acids? *Yea*. Your coat of lime is here on the surface. It has been slacked there. During that process, if by air only, it has become an insoluble carbonate: it has not entered the soil. If slacked by water, then a small portion has entered the soil as lime water. This portion has *not* neutralized the small portion of organic acid in that soil. I go farther: its excess has caused the inert vegetable matter to become acid to a greater degree than the lime can saturate. It has formed with it an acid salt. In this salt sorrel finds its food. It pushes up through your two inches of coating. That insoluble carbonate does not effect its growth any more than sand. The small portion of lime added to, not upon, the soil, having furnished the food for which the sorrel had famished, that now springs up, rejoicing that the lime has caused the indifferent vegetable matter to become acid, and to act upon the potash of the soil. Perhaps in these cases, lime is substituted for potash,—an isomorphous substitution.

Lay down your spent ashes, Mr. Editor, in a heap. You know its alkaline power is developed slowly by the action of air upon its silicate of potash. Cart it off now, to top dress your reclaimed meadow. You have left, where your pile was, the very material to partly saturate the organic acids of the soil—perhaps even increased them. You have formed acid salts, by whose absorption oxalate-forming plants, sorrel, will be produced. That this effect may follow an under dose of alkalis, may be understood from what has been advanced. If all the acid is *fully* neutralized, then the transformation of the neutral salt is probably not effected—sorrel grows not. If on the other hand, you supply the weak organic acids freely, as by sour muck, these, finding in all soils a small portion of lime and potash, the super salts are formed, and sorrel grows. It will grow till the acids are exhausted.

I consider, then, Mr. Editor, that the common opinion is well founded. I have great reverence for common opinion on such subjects. It is generally based on observation. In this case, it is supported by chemical philosophy. The doctrine of the agricultural press, appears, in the present state of our knowledge, to be the true one. *Neutralize the free acids—but do this by soluble alkalis in the soil, not on it.*

To the last inquiry of "D." I reply, there is no better test of the presence of acid in the soil, than the growth of sorrel or oxalate-forming plants. It is often a better test than the chemist can apply. Unfortunately it is an analyst always ready for the task. Like his brother analysts, he points out the existence of evil, but leaves to others the task of remedy, which the study of his habits teaches.

SAM'L L. DANA.

WHITE DAISY OR OX EYE.

This weed is a pest to the farmer, and as we see it is rapidly spreading in all parts of the state, where it has obtained a foothold, we publish for the benefit of those on whose farms it is found, the following extract from an Essay, which obtained the premium offered by the Pictou, N. S., Ag. Soc., for the best means of destroying this weed. We cannot omit to urge upon farmers the necessity of paying attention to the first appearance of weeds on their farms, and of eradicating them effectually in the outset. The annual loss to the country from weeds in crops, is immense. We know of many farms where the prevalence of the thistle, steinkrout, johnswort, daisy, &c. &c., is so great as to preclude the hope of a good crop. Any weed is easily overcome on its first appearance; but when it gets firmly rooted and widely spread, as it soon will, if unmolested, it is eradicated with difficulty. We have never been troubled with the daisy, but the system here recommended for their destruction, appears reasonable and worthy of trial.

The writer of the Essay says—"I have had a good deal of experience with the Daisy, (white or ox eye,) and would respectfully offer the following as the most effectual means of eradicating them when they have once got possession. Take a field that is as full of them as it can be; between the fifth and fifteenth of July, take the hay off, and plow it about four or five inches deep with a flat furrow. Let the field lie 12 or 14 days; then cross plow it with a furrow one or two inches deeper, well set on edge. After it has lain four or five days, put on harrows with long sharp teeth, so that they may go down as deep as it has plowed. Let the harrowing be done in angling directions through the field. Then with a hand rake, rake up the roots into small heaps and burn them. After a few days plow it into ridges for sowing. Between the 20th and 30th days of August, sow from three pecks to a bushel of clean timothy seed to the acre; harrow it with a light harrow, and water furrow it. If the land is wet, roll it with a light roller, and if dry, with a heavy one. By these operations, I am satisfied that this and every other weed, as well as the eggs of insects, grasshoppers, &c. are completely destroyed."

INDIAN CORN.

THE great crop of the United States, whether we look at quantity or value, is unquestionably our corn crop. Four hundred and fifty millions of bushels in 1840, and probably 500 millions in 1842, show the importance of this grain to us. And yet the quantity now grown is nothing, a mere drop in the bucket, compared with what we might do, should circumstances render it advisable to increase the production to an extent that might easily be reached on the present cultivated lands of the Union. In order to show at a glance what might be done, we have taken the pains to collect a few instances of good crops that have been grown among us, and would remark that on a very large portion of our soils, in favorable seasons, and with the cultivation corn should receive, crops like the ones named may as well be grown as inferior ones. It is true, we now and then meet with a farmer or writer who asserts that no man ever saw 75 bushels of corn grown on an acre, and that the farmer should be contented with 25; but the only emotions excited by such, are contempt for the ignorant confidence shown, and pity that in this country men should be found so far behind the times.

No. of Acres.	Product per acre.	Whole Product.	Name and place of cultivator.	Year.
1	136	136	R. H. Rose, Silver Lake, Pa.	1839
1	118	118	John Stevens, Hoboken, N. J.	1830
1	172½	172½	J. & M. Pratt, Madison, N. Y.	1832
4	170	680	" " " "	1834
1	132	132	Samuel Chidsey, Cayuga, N. Y.	1819
8	112	896	Earl Stimson, Saratoga, N. Y.	1829
8	129	1032	Wm. McClure, Allegany co. Pa.	1830
8	136	1088	Joseph Evans, Washington co. Pa.	1823
1	174	174	B. Bartlett, Eaton, Madison co. N. Y.	1823
1	116	116	T. & H. Little, Newburyport, Mass.	1822
1	115	115	" " " "	1820
1	142	142	Mr. Wilmarth, Taunton, Mass.	1825
8	108	864	Charles Bugher, Palmer, Mass.	1831
1	140	140	Benj. Butler, Chanaan, N. Y.	1831
1-136	202	202	Henry Sprague, Worcester, Mass.	1831
1	103	103	" Old Farmer, Rhode Island.	1833
40	140	5,600	Asahel Renick, Pickaway co. Ohio.	1836
1-12	100	1200	S. Lathrop, W. Springfield, Mass.	1836
22	316	6,952	P. Keybold, Newcastle, Delaware.	1838
1	108	108	R. H. Sheldon, Cayuga co. N. Y.	1838
1	110	110	E. Humphreys, Caledonia, N. Y.	1837
40	3,800	152,000	Clark co. Ky.	1837
1	120	120	Montreal, Canada.	1839
1	131	131	R. Lamprey, Moultonborough, N. H.	1839
1	116	116	Mr. Brown, Strafford, N. H.	1839
1	130	130	P. P. Pillsbury, Tuftonborough, N. H.	1839
1	144	144	J. F. Osborn, Cayuga co. N. Y.	1841
1	121	121	J. Sherman, " "	1841
1	112	112	" " " "	1841
1	120	120	Mr. Ellsworth, Conn.	1840
1	168	168	G. W. Williams, Bourbon co. Ky.	1840
1	120	120	W. Ingalls, Oswego co. N. Y.	1839
1	1,393	1,393	J. Myers, Canton, Ohio.	1840
1	164	164	W. Ingalls, Oswego co. N. Y.	1840
2	116	232	B. Bradley, Bloomfield, N. Y.	1841
1	122	122	Samuel Phelps, Cayuga, N. Y.	1842
1	113	113	Wm. Ingell, Oswego, N. Y.	1843
1	132	132	W. Wilcox, Saratoga, N. Y.	1843

The number of such crops, where the product exceeded 100 bushels per acre, might be extended to a great length from the list in our possession, but the above is sufficient. Still we imagine some farmers will say, (some have said so,) that the man who puts manure and labor enough on an acre to get 100 bushels of corn, is a loser. We would ask how? A man may cultivate an acre of corn and get 30 bushels an acre, and he will be a loser; but it is scarcely possible when the product is 100. In such a case, all over 50 bushels may be considered profit. In addition to this, his acre of land is placed in a condition to produce more good crops, and the additional amount of these is to be added to the list of profits. The man who has brought 30 acres of land to such a state that it will produce 100 bushels of corn per acre, is far better off than the one who has 100 acres, yielding only 25 bushels per acre; and of this fact we are happy to find many of our farmers are beginning to be well convinced. It is unnecessary to say the remarks we have made respecting corn, are equally applicable to any other grain or grass, and that the grand secret of success is to cultivate no more land than you can make rich.

WHEAT WORM AGAIN.

LAST year, we heard little complaint of the wheat worm in this vicinity, and were induced to hope that its ravages for the present, at least, were stayed. Acting under the influence of a similar opinion, our farmers, who for some four or five years have given little attention to the culture of winter wheat, last year increased their seeding with wheat to a considerable extent; and though the plants suffered much from the severe winter, the appearance of the wheat fields at the 1st of July could not be considered very unfavorable. On the 8th, however, a friend called at our office, and left with us two specimens of growing wheat, taken from different fields near each other, and some five miles from the city, on the Boston railroad. In one specimen, the worm was found in abundance, sufficient to wholly destroy the grain, while the other was perfectly exempt; and according to our informant, the field presented the prospect of a bountiful crop. The cause of this difference is worthy of inquiry, and we hope our intelligent agriculturists will enter anew upon the investigation. The kind of wheat exempt resembles much what is called the Canadian Flint; the injured, the common White Flint. It was too early, however, to pronounce with certainty on the varieties. The worm in this

wheat was the same that formerly did so much damage in this region and New-England; but it was neither the weevil of the south, or the grain worm of the west. It is improperly termed a weevil, all this class of insects being *bugs*; while the parent of this worm is a *fly*, as is also that of the grain worm, which caused some alarm in the wheat districts of western New-York, a few years since. The grain worm of the west is also much larger than the worm now under notice, so that it is clearly established that at least three kinds of worms are to be found in wheat; that produced by the weevil, and the two from the fly. We may recur to this subject again.

Since writing the foregoing, we have had a conversation with a gentleman thoroughly versed in agricultural matters, and a resident of Rensselaer county. He assures us that he has been paying much attention to the wheat worm since its appearance the present season, and finds it only in those fields that were sown late; while those sown early, or in August, are, as far as he has observed, wholly exempt. Should further experiment verify this, it would be an important fact. As late sown spring wheat has been found to escape the worm, and early sown winter wheat, it is fair to infer that the period in which the parent fly is active, is very limited, and that the wheat must be in a certain stage to be liable to its attack. We know of but one very serious objection to the practice of sowing winter wheat as early as August: in those districts where the Hessian fly is found, such wheat would hardly escape a fall attack, and in that case, would surely be destroyed by the spring progeny of the fly. We trust, however, that this reappearance of the grain worm will be but temporary, and its disappearance soon be final.

AGRICULTURAL SURVEY OF THE STATE.

We are gratified in being able to give place to the following announcement by Prof. EMMONS, that he is at present engaged in an agricultural survey of the State; and we ask the attention of agriculturists and land owners to its contents; as from the brief time allotted him for his labors, a cordial co-operation is requisite to produce the results desired, and which we have a right to expect from such a survey. The great work now in progress on the geology and natural history of New-York, would hardly have been complete without the survey now committed to Dr. Emmons. Such surveys, when properly performed, have always been considered as the most valuable of documents, alike interesting to the farmer and important to the political economist and statesman. They disclose the true source of national prosperity; they teach us the peculiar character and qualities of soils; they inform us of the system of culture and the crops best adapted to any particular location; and they furnish the means of enabling the man who wishes to purchase lands, to do so understandingly. We hope the fact of the survey being in progress will at once be made known; and the editors of newspapers will confer a favor on their readers, by giving the notice a place in their columns.

"TO AGRICULTURISTS.—Dr. Emmons, who has heretofore been engaged in the geological survey of New-York, is now employed by his Excellency the Governor, under the act of last winter, in making an agricultural survey. He proposes, if possible, visiting each county before the close of the season, for the purpose of making such observations in this department of the survey as shall serve to promote the great object of agriculture. The collection of soils forms a part of his duties. Observations on drainage; the influence of slope and exposure on late and early vegetation; the extent of drift; the distribution of the mineral manures, as peat, marl, limestone, &c., and the extent of the different agricultural divisions or regions, are prominent objects of the survey. To assist in this work, farmers are respectfully solicited to collect specimens of soil, and transmit to Albany, by private conveyance, if possible, for the collection now in progress. Let the specimens thus transmitted, be accompanied with a description of the rock, subsoil, slope, mode of cultivation, &c. &c. and such remarks as are essential to a correct knowledge of their true nature and condition. Agricultural statistics in all the departments of husbandry are respectfully requested, and a communication of facts which may be deemed important to the promotion of husbandry in New-York; also the collection and transmission of those insects which are injurious to vegetation. The soils, when it is important, will receive a chemical examination, as soon as possible after the field work is completed.

"A co-operation in this work is highly important, in consequence of the limited time which has been assigned for it."

To give a fair specimen of soil, it should be derived from different parts of the same field, well mingled, and then a quantity selected for transmission. If possible, it should be virgin soil, or that which has never been manured. We hope the important point of *elevation* will not be overlooked in the survey, as we are confident few things have a more important bearing on agriculture than that.

THE NEW ENGLAND FARMER.—With the month of July this paper entered upon its 22d vol. It is edited by the Rev. ALLEN PUTNAM, a thorough practical as well as scientific farmer, with a taste and judgment certainly not excelled by any of our agricultural journals. Published weekly, 8 pages quarto, at \$2.00 a year.

NOTICES OF NEW WORKS, &c.

PROF. JOHNSTON'S LECTURES.—D. K. MINOR, New-York, has just issued the third Part of "Lectures on the Applications of Chemistry and Geology to Agriculture," by Prof. Jas. F. W. Johnston, in a neat 12 mo. of 182 pages. This part consists of five lectures.—I. The Qualities of the Soil may be changed by Art, embracing the connection between the kind of soil and the kind of plants grown upon it—draining and its effects—plowing and subsoiling—deep plowing and trenching—the improvement of the soil by mixing, &c.—II. Improvement of the Soil by Chemical Means, treating of saline manures, their action and effects. III. Of the use of Lime as Manure, its composition, changes, application, action and effects.—IV. Of Organic Manures, treating of the application and effects of green and dry vegetable substances.—V. Of Animal Manures, such as flesh, blood, wool, hair, horn, bones, fish, whale blubber, oil, animal excretions, &c. &c. Mr. Minor has performed a most valuable service for our farmers in giving them this excellent work in a neat form, and at a price which can prevent no one from procuring it—31 cents. It should be in the hands of every farmer who has any desire to understand those operations by which he may sustain and increase the fertility of his lands. We shall recur to it again soon.

MAN'S ARTIFICIAL INSTITUTIONS OF AGRICULTURE, TESTED BY GOD'S INSTITUTIONS OF AGRICULTURE.—We find on our table an 18 mo. volume with the above title, from the pen of JOHN D. WILKINS of Louisiana, and the press of G. Vale, New-York. Mingled with much irrelevant matter, are found some very good remarks on the practice of agriculture, and some theoretical fallacies which time and further observation will enable the writer to correct. His notions on the subject of clover are in our opinion eminently just. He contends that it should be matured and partially dry before it is plowed under for manure, and this agrees with our own experience. This plant too, he places at the head of all others as an agent for fertilizing the soil; and yet it is but a few days since we heard a very respectable farmer denouncing clover as one of the greatest curses of the country, and one that did more damage than half a dozen of our worst weeds combined. Mr. Wilkins is right in strenuously recommending deep plowing. It lessens the danger of drouth; it gives a greater range for the roots of plants, and it makes a deeper and more fertile soil. In pointing out some of the instances in which we have deviated from the practice of nature, he says:—"If we would, with the same care, return every thing to our fields, as does nature, we should never wear them out, no more than in natural agriculture;" This truth should be impressed on the mind of every farmer, to return in some form of manure, as much as is taken from the soil; and unless this is done, land is growing poorer as surely as that when two is taken from five, only three remain.

JOURNAL OF AGRICULTURE.—The Quarterly Journal of Agriculture, published at Edinburgh, under the auspices of the Highland and Agricultural Society of Scotland, completed its 13th vol. in April last. With the July no., which has just reached us, a new series has been commenced under the title of "The Journal of Agriculture, and the Transactions of the Highland and Agricultural Society of Scotland." It is to be published quarterly in nos. varying from 150 to 200 pages, at 3 shillings, making the cost of it about \$3.00 a year. It is a most valuable work, and we should be glad to see it, together with the "Journal of the Royal Agricultural Society of England," which is hereafter to be published in semi-annual parts, varying in price from \$1.50 to \$2.00 per part, more frequently on the tables and in the libraries of our wealthy farmers.

THE FARMER'S HERALD.—We have before us the first numbers of an agricultural publication, under the above title, issued monthly, in an octavo form of 16 pages, at Chester, and intended for the English farmer. Hitherto the price of the English Ag. Journals has been so high that the common farmer had no access to them; but the success of cheap agricultural publications in this country has been so great, and their utility so manifest, that the present work has been issued to supply a want so injuriously felt. The numbers before us are well filled with useful matter, and will doubtless exercise a most beneficial influence wherever they shall circulate. The price about 75 cents per annum. This must be considered a low rate, when it is remembered that it is a stamped sheet, and the duty is 25 cents a year.

SILLIMAN'S JOURNAL.—The July no. of this work, comes to us laden with rich contributions to the science and arts of our country. Among its contents, are papers on the Nomenclature of Zoology, by A. A. Gould, M. D.—on the Tides of the North American Lakes, by Lieut. Rugles of the U. S. Army—on the Influence of Pressure on the maximum density of liquids, by Prof. L. C. Beck—on the Ice Mountains of Virginia, by C. B. Hayden—Proceedings of the Fourth Session of the Association of American Geologists and Naturalists, held in this city in April last, &c. &c. We regret to learn that by the depression of the times, and the failure of agents, this valuable work is placed in a precarious situation, and we heartily unite in the wish of the Editors, that the friends of science would exert themselves to increase its circulation.

NORTH AMERICAN REVIEW.—The July no. of this long established work is a capital one, proving that the late transfer of its editorial responsibility, will be attended with no loss to its readers. The leading article is a candid and well written paper on the life and character

of Thomas Paine. The one that follows, on the Fisheries, is a most instructive one, and will be read with interest. There are also reviews of Stephen's Yucatan; Northern lakes and Southern invalids; Miss Bremer's novels; the School and the Schoolmaster, the capital work recently published, by Prof. Potter and Mr. Emerson; the Nestorian Christians; Classical Studies; the Mutiny of the Somers, and an ample list of critical notices. D. H. Williams, 6 Water street, Boston, publisher.

FOREIGN INTELLIGENCE.

MR. COLMAN.—We are gratified in being able to give our readers a letter received from this gentleman by the last steamer. It will be seen that he enters upon the objects of his tour under the most favorable auspices, and we have reason to believe that every facility will be afforded him, necessary to enable him to make his proposed publication more valuable to American farmers than any work hitherto published on the subject of British husbandry. We hope he will bear in mind the impatience with which it is awaited, and favor us with his first part at the earliest period possible. He must necessarily, however, occupy many months in his examinations and in the collection and arrangement of his materials, before he will be prepared to commence writing his survey; and we can hardly expect the publication of the first part before some time in the ensuing winter. In the mean time, we shall be happy to add the names of any of our friends to his subscription list.

At the meeting of the Council of the Royal Ag. Society, on the 21st June, as we learn from our London papers, Mr. Colman was present, and presented the Society with a model of Atwater's Steam Generator—samples of sugar made from cornstalks—several specimens of flax, prepared by steam, with a view to its being spun on common cotton machinery, and a specimen of perennial flax, from Mr. T. J. Walker, Eekford, Mich.—also various specimens of silk and cotton; upon which, "Mr. Pendarves, M. P., moved a vote of thanks to Mr. Colman for the interesting specimens and details he had brought under the notice of the Council; and having dwelt on the advantages the Society would derive from the information Mr. Colman, as one of their honorary members, would from time to time lay before them during his present visit to England, he would, he trusted, be enabled, after his agricultural tour through the kingdom, and especially after his personal attendance and inspection at the ensuing Derby meeting, to carry back to America a favorable report of the agricultural improvements of the old country." The chairman, Lord Portman, was quite sure that the proposition required no seconding; and the motion being put, the vote of thanks was carried unanimously.

Mr. Colman attended the meeting of the West Sussex Ag. Association on the 16th June, and was introduced by the Duke of Richmond, who said:—"I beg to propose the health of a gentleman from the United States. I have much pleasure in introducing him to the farmers of Sussex as one who was engaged in the inquiry into the agricultural affairs of America. I have seen the report of that inquiry, and know that no one could have written such a work on the subject, unless he had been well aware that agriculture was of the first importance in all countries. I had the pleasure of introducing him as an honorary member of the Royal Agricultural Society; and I now introduce Mr. Colman, who sits by Mr. Dickens, not as a stranger, but as a descendant of those who were one with us, and as a brother citizen. The disputes with America have been happily settled, and let us hope that we may long remain in amicable relations with the United States. I ask you to drink the health of Mr. Colman, with three times three; and then show your response to the sentiments which I have uttered, and may our only rivalry with them be, who can produce the best men and the best farmers." (Loud cheers.)

Mr. Colman, on rising to return thanks, was loudly cheered; and after a brief and pertinent response, which was loudly applauded, gave—"Success to the beneficent landlord, and success to the honest and industrious laborer."

LETTER FROM MR. COLMAN.

London, 3d July, 1843.

LUTHER TUCKER, Esq.:
Dear Sir—I intended sooner to have had this pleasure; but life in London consumes one's time very much as a North River steamer consumes the fuel; and at the close of the day or the week, you can about as well say what has become of it. Such a rushing torrent of human life as the great avenues in this city present—and really, speaking of great avenues, one street seems very much like another—it is hardly possible to realize but from actual observation. The Strand, Holborn, Piccadilly, Regent-street, Westminster bridge, London bridge, &c. &c., with their coaches and carriages, and barrows and omnibuses, and horses and dogs, and very often droves of sheep and oxen, and people of all nations and costumes, in silks and tatters, in elegance and squalidness, some with clothes on of course, and some I had almost said without any, equally matter of course, I judge, with them; some running, some creeping, some talking, some singing, some crying, some reading, some musing present, indeed, from the top of an omnibus, where you can take in the whole line, one of the most striking and curious scenes imaginable, and infinitely amusing and instructive. It resembles nothing so

much as the breaking up of one of our great rivers in the spring, or at the time of a sudden freshet, which sweeps the fields of their ripened crops, when down come cakes of ice of all imaginable shapes, tumbling over each other, and logs and slabs, and broken fences and parts of buildings, and countless other things, mingling in all possible confusion, and all driving with an irresistible impetuosity to the ocean. But there is this difference, that here in the streets of London, crowded as they are, and presenting continually opposing currents and eddies and whirls, there is no confusion or rubbing or chafing, but all get on with good humor and quiet. The omnibus drivers in London seem to me the perfection of "whips," and the very personification of skill and discretion in their particular art; and though I have rode miles and miles on the box with them, and on some occasions where the street was filled with a continuous string of all sorts of carriages and vehicles, four deep, from the chariot of the peer to the wagon of the coal-heaver and the donkey barrow of the dog-meat seller, I have never seen any entanglement, any running against each other, nor heard a single profane or rude word on any occasion. This certainly speaks well for the people. The law of courtesy and civility reigns supreme among all classes of them; neither by day or evening, and I have been in all parts of the city, have I seen, but in one instance, a single act of quarreling, and that a case of absolute drunkenness and degradation; and not even at Epsom, where I attended the races, and where, it would seem to me, on the day of the great stakes a hundred thousand people were assembled. Undoubtedly there is vice enough in London, and parts of it are, as is to be expected, festering with moral corruption; but these facts speak volumes in the praise of the people, and show the admirable character of their police, and the advantages which come from making manners a study.

You and my agricultural friends in the country will be happy to hear that I have been received here by the distinguished friends of agricultural improvement with the most cordial welcome, and am promised the most ready and ample aid and encouragement to my inquiries. I have already been a good deal in the country, and after this week, leave the vicinity of London for some months. I am not disposed to institute any invidious comparisons between this country and my own, for I see no grounds for such comparisons. However separated in their location, their interests are coincident and the same; and I venture to say that no conviction impresses itself more strongly upon the mind of a wise and humane man, when he comes here, than the unnaturalness of enmity or war between two such countries, united as they are by a common origin, a common language, and a universal interest in the maintenance of peace and good will. My mission is regarded with favor, and I shall spare no pains to render it as useful as my limited ability will enable me to do, to my country. Agriculture is pursued here with an intelligence, spirit and liberality which are most remarkable and delightful; much has already been done, and the most valuable results are to be confidently expected. Our country must share in the benefit, and the fire kindled and kept burning so brightly here, must extend its light and heat to both hemispheres.

I shall keep my friends in America advised of my whereabouts and whatabouts; and any letters directed to me at London, care of Baring, Brothers & Co., will be duly received. The steamboat postage, however, must be paid in America, in order to their being sent.

With all good wishes, I am yours, truly and respectfully,
HENRY COLMAN.

COUNT DE GOURCY'S AGRICULTURAL TOUR.

It is not often the public are favored with a volume of agricultural travels; but we have now before us the recorded observations of a French nobleman, who visited England in 1842, for the purpose of making himself acquainted with their modes of husbandry, and who traversed the kingdom in all directions for this purpose. The Count is evidently a passionate votary of agriculture, a man of talent, and who has made as few mistakes in his observations as could well be expected from a stranger to the country and the language. We should be disposed to quote largely from this Agricultural Tour, were it not that our friend Mr. Colman, with equal or greater facilities for observation, is now employed on the same ground, and that we may expect from him such accounts as will be more useful to us as Americans. We shall therefore only glean such facts as strike us the most forcibly in the perusal, or such subjects as are most frequently the ground of comment among farmers in this country.

One thing that arrests the attention of the American farmer at once, is the rate of expenditure or the capital employed by British farmers. The notices are frequent, in which the payment for manure per acre is from \$20 to \$30, and the rent per acre from £2 to £8. To meet such expenditures of capital, the crops must be abundant, and the prices high. Such is the case, as is evident from the Tour, and indeed from the concurrent testimony of all other observers. The average of the wheat crop of England per acre has been estimated at 23 bushels; in the United States, the average would range between 12 and 15 bushels per acre. Yields of 50 bushels per acre are as common there as 35 are here; and the produce of barley and oats is in about the same ratio. Climate may have some influence in this great productiveness, but skillful farming more. In a large

part of England, the soil on farms constantly cultivated has for many years been increasing in fertility, and the idea of exhaustion of soils, under proper cultivation, is scouted as absurd.

Another cause of the greater product of English farms, is to be found, perhaps, in the much greater quantities of seed they use. From 2½ to 3½ bushels of wheat per acre are commonly sown; and the same liberality is observed with other grains, and with grass seeds. It is evident that such seeding would be useless, except on lands very rich, and prepared in the best manner. In seeding to grass, the English farmer goes on the maxim that where grass does not grow, weeds will, and his object is to occupy the ground fully with the former. Thus the Tour states that Mr. Bates, the celebrated breeder, in stocking his meadows or pastures, "sows 5 lbs. of cow grass, 5 lbs. white clover, and half a bushel of rye grass per acre; or if alone, 2 lbs. of hop clover and 12 lbs. of red clover per acre."

One of the most interesting visits made by the Count, was to the farm of Mr. Fisher Hobbs, a young man educated to the business of farming, and who the year previous received no less than 41 premiums from various agricultural societies. He states that good farmers in Leicestershire or Suffolk, who receive pupils, receive from them annually from \$400 to \$500. Mr. Hobbs used to breed Short Horned cattle, but he has changed them for Herefords, believing the latter better adapted to that neighborhood. He thinks they fatten more readily than the others, but the Short Horned are superior for milk. All his farm arrangements and implements were of the most superior kind, and the best wheat seen in England was on his farm.

One of the most extensive breeders of Short Horns in England is Earl Spencer, formerly Lord Althorp, and no one has taken more pains to preserve the purity of the breed, or improve it, than he. His herd numbers 380, and a pedigree of the whole is kept with the greatest care. He has never sold any cows, not having as yet got the number of the same stock he wishes to keep. Bulls and cows that do not breed, are the animals sold from this herd. He sold a cow that did not breed to a farmer, who, though aware of the fact, gave £30 for her, and she afterwards produced several most valuable calves. Change of situation and less nourishing food was considered the cause, and Earl Spencer has profited by the hint, where cows have been indisposed to breed. The calves have milk for the first three months; afterwards, skim milk, with barley or oatmeal. In breeding cattle or sheep, Earl Spencer does not reject an animal because it has one great defect, provided it has other important qualities, but such a one must be bred to an animal that possesses the quality in which it fails in the highest degree possible. A descent of five generations from an animal of merit is deemed by him a good pedigree.

At Ferraby, he called on that excellent farmer and breeder, Mr. Watson; examined his beautiful Short Horns and Leicesters, and his system of farming generally. Mr. W. gives no hay to his horses, but feeds them on oats in the straw, cut into chaff. When under hard work, a small quantity of ground oats or barley is given in addition. He works oxen extensively, preferring for this purpose the Devons. He sows from 100 to 200 acres of turneps each year, each acre being manured with 12 bushels of bones and from 17 to 20 bushels of ashes, mixed with night soil. On land intended for wheat, he lays and spreads the dung two or three months before breaking it up. His wheat averages him about 30 bushels, and his barley about 40 bushels per acre. The soil is good, but much of it is not more than six inches deep, on limestone or chalk.

At North Allerton, he attended the meeting of the Yorkshire Agricultural Society, one of the best institutions in England; Lord Spencer presided. The dinner was laid for 1700. "The toasts, given with three times three, according to the English fashion, occupied a long time, and were very tiresome; the greater number of the speeches were long, and contained nothing but compliments, ill timed." We can readily credit this assertion of the Count, for in reading the reports of the speeches given at similar meetings, in the English journals, we have often been reminded of the saying, that "when the wine was in, the wit was out." The show of animals was fine.

The Short Horn stock of Mr. Bates of Kirkleavington, a name better known to our breeders than any other, excited his unqualified admiration. The Count gives an interesting account of the manner in which Mr. Bates has drained and reclaimed his farm, which consists of 1,000 acres of heavy, wet, clay land. His land, so drained, produces excellent crops, particularly of hay and pasture. His meadow he manures every third year with fifteen tons of rotten manure per acre, and the same quantity every sixth year is given to his pasture land. The manure is put on the meadows as soon as the hay comes off, in moist weather, and is brushed into the land with a heavy drag, made of thorns. Mr. B. keeps all his cattle in the house in winter, and his bull calves all the year round, experience teaching him this is much the best course. He asserts that one acre of clover, cut green for animals, will feed three times the number that it would if pastured. Of the farm of Mr. B., 600 acres are divided into twelve rotations of 50 acres each. First year, fallow; second, wheat; third, clover and rye grass; fourth, fallow; fifth, wheat; sixth, beans; seventh, fallow; eighth, wheat; ninth and tenth, grass; eleventh, oats; twelfth, beans.

At Mr. Jobson's, near Chillingham, he found beautiful

cattle and fine crops. Mr. J. gives his married laborers a house, a small garden, a portion of land prepared and manured for potatoes, 28 bushels of oats, 20 bushels barley, 7 bushels of peas and beans, 3 bushels of wheat, pasture for a cow, 23 cwt. of hay, and as much as he requires of straw and turneps, in lieu of hay, and £4 in money. Every married laborer is obliged to find a bond servant to work during his service, to whom Mr. Jobson pays ten pence per day, and in harvest a shilling. It is unnecessary to say that the wife is not unfrequently the bond servant of the contract. At Chillingham park he saw the celebrated herd of wild cattle which have occupied it for centuries. They are all white, and more wild than the deer. Of the cattle there are 130, of the deer about 500. The system of farming adopted by the Messrs. Jobson is very complete, and here the Count found a beautiful bull from Mr. Bates' stock. The manner in which capital is employed in farming is well illustrated in the case of Mr. Hoggart, near Coldstream in Scotland. Mr. H. is a young man, and took his farm for only 15 years. He expended at once, \$20,000 in draining, embanking, ditching, liming, &c., and employs a capital of \$25,000 in carrying on the farm, stock, &c. The first five years he makes nothing; the second five years he receives a return of his expenditure, and will net \$25,000 on the third five years. It is nothing uncommon where the lease is for only 20 years, to expend from 5 to 15,000 dollars in draining.

At Maybol, in Scotland, he visited the farm of Mr. Fandley, which he found in fine condition. Wheat averaged 38 bushels, and the oats 60 per acre. He keeps from 34 to 36 fine Ayrshire cows. Many yield 35 quarts, and some have reached 45 quarts per day during the best of the season. Mr. F. makes about 200 lbs. of butter per week. In seeding his lands to grass, he sows 12 lbs. of red clover, 8 of white, 4 of hop clover, and 70 lbs. of English rye grass, per acre. The herbage from such a quantity of seeds, is from the first of the best kind.

He visited the establishment of Mr. Smith at Deanston, whose factories and farms are all on a magnificent scale, and managed with equal success. Mr. Smith is the inventor of many valuable agricultural implements, such as Wilkie's turn-wrest plow, and he first constructed a plow for the purpose of subsoiling. In subsoiling, Mr. Smith cuts a furrow six inches deep and nine inches wide, followed by another plow, which only stirs, without bringing the subsoil to the surface. In the dairy, flat round pans of zinc are used. The cows are Ayrshire. One of his large manufactories, some eighty feet in height, is roofed with bitumen, on which earth to the depth of a foot is placed, and thus converted into a garden. The Messrs. Drummond of Sterling, have one of the most extensive agricultural museums, containing all kinds of farming implements, seeds, &c. &c. to be found in Europe. The establishment is admirably managed, and has effected vast good in improving agriculture in almost every district of Scotland. The extensive plantations of larch, fir, pine and oak of the Duke of Athol, attracted his notice. The late Duke planted 100 acres annually, for 60 years, and before his death had sold timber to the amount of \$150,000.

On the farm of Mr. Watson at Keylor, in the north of Scotland, he saw very much to admire. This gentleman feeds large numbers of South Downs and Leicesters, and has many cattle. He keeps about 20 of the mountain or highland cows, which he breeds to a Short Horn bull, and it is astonishing to witness the results of this cross of a large male with small females. The success in every respect is beyond a doubt. Mr. W. sows little wheat, as it does not ripen well. Grain of all kinds is reaped by the sheaf, three pence for two dozen, and a guage is used to determine the size of the sheaves. The grain when cut is bound and set up; two rows of five each, capped with two others, making the dozen. Such is the weather in this part of Scotland, that the grain is not fit to stack in a number of days, and last year the reaping was not all done before December. The mean produce of barley and oats, which are the most grown, is about 38 bushels. Mr. Watson takes pupils to instruct in farming. Two young men of good family were with him, who pay 300 guineas for the first year, and 200 the following years. His terms are high, to prevent too many applicants.

We cannot follow the Count in his travels farther; as we have given enough to show how English agriculture strikes a foreigner; and as we hope to have the privilege hereafter of detailing the progress of an American farmer over the same country.

MULTICOLE RYE.—This is the name given to a plant, a native of Poland, which has been introduced into cultivation with great success in the south of France, and of which the following account is given in the London Farm Magazine:—"It grows on common soil suited to the old fashioned rye, but its habits are totally different. By the reports of above thirty respectable agriculturists near L'Orient, who have cultivated it for the past two years, it does best when sown the 1st of June. Its growth is most rapid. Two crops of it are before July cut for hay, and by the 15th of August, a grain crop is reaped. The straw is from 8 to 10 feet high, and the ear from 10 to 18 inches long. An account of this rye may be found in the "Transactions" published by the French Minister of Agriculture, &c." Would not this variety of spring rye be worthy of trial in those parts of our country where other grasses are difficult of growth, on soils rather sandy and light, but which if in good condition, are the best for this grain. The growth, if correctly stated, is truly surprising.

TRIP TO SYRACUSE.

The Mohawk Valley—Lunatic Asylum—Manufacture of Parchment at Utica—Syracuse and its vicinity—Prevalence of Weeds.

EVERY BODY travels. The facilities of locomotion are so great, the inducements to travel so strong, and the means of gratifying the passion of seeing so easily procured, that few are contented to spend all their time under the dull monotony of home or eating cares of business, but occasionally escape from them to the free air of our mountains and valleys, to return with renewed health and spirits to the daily occupations of life. We too have been rambling; and the ground chosen was the beautiful valley of the Mohawk, and the fertile fields of Western New-York. It may well be questioned whether any other route of frequented travel in this country offers more to interest, instruct or please, than the Mohawk valley. Its round wooded hills; its massive precipitous rocks and wild gorges; the rolling waters, long glittering reaches, and willow covered islands of the river; the impressive historical recollections connected with almost every part of the region; and to the farmer, with whose eyes we viewed it, of more real consequence than all, its rich and broad flats, sloping pastures and cultivated fields constitute a picture of beauty and richness rarely equalled.

No man traverses the Mohawk valley without feeling that God has lavished upon it the gifts that best fit a country for the residence of man; and if he sees, as he too often does, things that do not harmonize with this feeling, he is convinced that it is to be traced to the impvidence or the neglect of man. Where weeds grow in rank luxuriance, crops of grain of equal vigor might be produced; nothing but the care and the labor of man is requisite to secure this result. Feeling thus, it is impossible to offer any reasonable excuse for the various weeds that are so rapidly multiplying on the fertile soils of the Mohawk, and we are confident fast reducing the profits of the farmer. It does no good for a farmer to yawn, fold up his arms, and say weeds cannot be conquered. It is not true: they can be; and numerous facts prove this to be the case. There is not a weed, now encroaching on the soil and the profits of the farmer, but can by persevering effort be eradicated, and by care and vigilance prevented from ever again appearing to any extent. The johnswort, thistle, daisy, elder, cicuta, wild mustard, &c. &c., are not immortal, but are continued by seeds or propagation from the roots. Strike at their existence, at the point most vulnerable; if their mode of propagation is from seeds, sow none; if from roots, or from both seeds and roots, then dig or plow the roots till killed. If we were to classify the weeds of the Mohawk farms, according to the injury they must occasion, the mustard or charlock would be placed at the head, and the elder next. Both delight in precisely such soils as there exist, rich, friable, and not liable to drouth. It was deplorable to see how the spring sown crops were overrun by the mustard; whole fields of the brightest yellow, and the poor oats or barley maintaining a dubious struggle for ascendancy, if not for existence. Now and then the heart was gladdened by a farm from which skillful cultivation had mostly kept these pests, and the richness of the growing crops attested what such soils would do when properly cared for.

Strange as it may seem to those who remember the time when the Mohawk valley was considered the finest wheat country in the United States, there is now but very little wheat grown in that district. A traveler will see more wheat on the ground, in four or five miles ride in Onondaga and the western counties, than in the whole Mohawk valley from Schenectady to Rome. From thence, through Madison, there is a perceptible increase, and in Onondaga an Cayuga it is grown in great quantities. Throughout this extent, or indeed through the whole west, lands lying on, or in the vicinity of the limestone strata, are found to be the most productive of wheat, a fact which examination will easily show. It is worthy of serious consideration with the farmers of the wheat producing districts, whether their lands too will not soon fail them like those of the Mohawk, and they be obliged to rely on other sources of profit for thrif, if not for bread. There is, we think, clear indications that such will be the fact; that western New-York will soon cease to produce wheat to the present extent, and stand in relation to Michigan, Wisconsin, &c. as the Mohawk valley now does to her. That there is no necessity for this exhaustion of soils; that they may always be made productive of grain, is evident from the continued fertility of soils in Europe, that have been cropped for hundreds if not thousands of years. It would be well for them to inquire the cause and the progress of this exhaustion, and endeavor to avoid such a disastrous result.

It has been an opinion to some extent, that a different kind of soil was required for corn and the spring grains, than the one best adapted for wheat; It is certain that corn and the spring grains will frequently succeed where winter wheat will not; but in our excursion we found the best corn, and the best spring sown grain, on those farms where the best wheat was growing; a fact which proves that these farms were better cultivated, or that the best wheat lands were also the best for other farming purposes. Corn was every where backward, but the very warm weather of the middle of July, was bringing up leeway rapidly. It is to be hoped there will be no failure of this crop, for there is none that contributes more widely to the sustenance of both man and beast.

During a few hours spent at Utica, one of the most pleasant and prosperous places on the canal, a visit was

made to that splendid proof of the state's consideration for the most unfortunate class of her citizens, the Lunatic Asylum. One side of the square only, a massive stone building of about 500 feet in length, is completed; the others are in various degrees of forwardness. The number of inmates was at that time 130. Some were laboring in the grounds belonging to the asylum, some were walking up and down their rooms in moody melancholy, and a few were raving mad. It was a pitiful sight to see these wrecks of humanity; and it was a saddening and humiliating reflection, that the slightest injury, the mere loosening of a screw as it were, in the complicated mechanism of man, might reduce the proudest intellect to a similar ruin. An insane man is said by his language to show what the prevailing current of his thoughts were, while moving in society and among his fellow creatures. This is not improbable; for the conduct of the insane reminded me of a school in which the master is absent, and expressions were used and words uttered, which would not have been, had reason, the master, been present. The conduct of no inconsiderable part of the insane, goes to prove the truth of Talleyrand's maxim, "that language was given to man, only to conceal his thoughts."

There are many branches of manufactures carried on to a considerable extent in Utica and its vicinity, furnishing employment to many operatives, and opening to that extent, a market for farmers that would not otherwise exist. Among these manufactures is one of parchment, where large quantities are annually produced, and of the best quality. A specimen from this manufactory received the premium at the State Fair at Albany, last October. An anecdote related to me by the proprietor, J. C. DeLong, Esq. will show to what perfection the article has arrived. Considerable quantities are used in the departments at Washington, and has generally been imported, a good article being rarely found in this country. To exhibit his own, and call the attention of the officers of the Government to the manufacture, he addressed a letter on a sheet of it to the head of the War department, saying that the sheet sent was a fair specimen of the parchment manufactured by him, and inviting an examination. Supposing the letter to be only an envelop of the specimen, he made some inquiry for the article itself, which he supposed had been mislaid, and among others spoke to Mr. Ellsworth of the patent office, showing him the letter at the same time. "Sir," said Mr. E., returning the letter, "that letter is the specimen spoken of." "You do not mean to say," answered the Secretary, "that this letter is parchment?" "Certainly sir, the letter is the parchment referred to, and to convince yourself, you have only to attempt tearing it." It was so, and the Secretary was surprised to find that American manufacturers could produce parchment equal in appearance to the very best kinds of writing paper.

Syracuse is a place that possesses many advantages. The center of the New-York salines; the point where various lines of communication from the south and the north, from Erie, Ontario, and the Hudson meet; in the heart of one of the best farming counties in the state; and possessing water power to a considerable extent; it is not surprising that the place should be prosperous. The great number of new buildings going up, and the crowded state of the principal thoroughfares, are very sure indications of a healthier and better condition of things than has existed for some years. There are few manufactures more important to the country at large than that of salt, or one in which the agricultural part of the country is so deeply interested. An article necessary to the health, and indispensable to the comfort of both man and animals, salt must always hold a high place among our articles of consumption. The act of the last session appears to be nearly every thing that could be desired, and the activity of the manufacturers shows that a large quantity of salt will be produced the present season. The fertility of the soils in the vicinity of Syracuse is of the highest order, and farms are proportionately prized. It may be considered a curious and instructive fact, that the district of country proved to be the most valuable in this county, for many years after the settlement was considered almost valueless, and only to be occupied by the poor or the unfortunate. It is a remark of which the experience of many years has verified the truth, that a knowledge of the state of the crops of wheat or corn on a line across the center of the county, from Dewitt to Ellbridge, would enable one to form a very correct estimate of the condition of these generally in the state; as in no case has the general average been found to exceed that indicated by this particular section. But Onondaga, like the eastern counties noticed, shows that more attention has been paid to taking of crops with little labor, than to keeping the lands clean, and in an improving state. In the wheat lands, the steenkroot or red root, one of the worst enemies of that grain, has a wide spread, and like the charlock or mustard of the Mohawk, threatens ere long to have undisputed possession of many farms. Farmers cannot be aware of the serious loss they suffer from the presence of this and similar weeds in their crops, or they would make more energetic and consistent efforts to destroy them. A severe drouth was prevailing here, and greatly lessening the prospect of root crops generally; still an early recurrence of rain would give these crops a fair chance of success.

But these rambling remarks must be here closed; and it is done under the increased appreciation of the value of agriculture to the country, the beneficial effects of a farm residence on the health and spirits, and the assurance that the most profitable farms are those managed the most neatly and skillfully.

NEW-YORK STATE AG. SOCIETY.

THE regular meeting of the Executive Committee of the N. Y. S. Ag. Society for July, was held at Rochester, on the 12th. Present, Mr. WADSWORTH, President; Messrs. SHERWOOD and LANGWORTHY, Vice Presidents; Mr. TUCKER, Sec'y, and Messrs. WALSH of Lansingburgh, and HILLHOUSE of Albany, members of the Board. There were also present, the President and several of the officers of the Monroe Co. Ag. Society, together with a number of citizens of Rochester, who took part in the deliberations of the Committee, and evinced a warm interest in behalf of the efforts of the Society.

Propositions were made to alter the time of holding the Fair to an earlier day than had been fixed upon, and to alter the Premium List so as to give separate prizes to the different breeds of Short Horn, Hereford and Devon Cattle. Both propositions were, however, after full discussion, rejected.

The Committee, after viewing the different locations offered for holding the Society's Cattle Show and Fair, which is to be held on the 19th, 20th and 21st days of September next, selected a beautiful spot on the west side of State street, about a mile north of the center of the city of Rochester. The ground is elevated and dry, with a close heavy turf, and is admirably located for the purpose, being on one of the principal avenues, with a macadamised road and sidewalks extending to it.

The question of enclosing the grounds, and charging the small sum of 12½ cents for admission, as practiced at the last Fair in Albany, was discussed, when it was unanimously

Resolved, That a committee of arrangements be appointed, whose duty it shall be to prepare the show grounds for the exhibition, by causing eight or ten acres, as they may think best, to be enclosed with a high and substantial fence—to erect such building or buildings as they may deem necessary—procure tents, build pens, &c. and that to defray the expenses thus incurred, a fee of 12½ cents be charged for admission.

The following gentlemen were appointed for the purpose specified in the above resolution:

Committee of Arrangements.—J. S. Wadsworth, Esq., Col. A. Sawyer, L. B. Langworthy, Lemuel Thompson, Gen. R. Harmon, C. F. Crossman, P. Barry.

The following gentlemen were appointed Judges to award the premiums to be paid at the Fair:

On Bulls, Classes I, II, III, IV.—James Gowen, Philadelphia, Pa.; William Garbutt, Wheatland; C. N. Beiment, Albany; Wm. Fuller, Skaneateles; Z. A. Leland, N. Y.

On Cows, &c. Classes V, VI, VII, VIII.—Adam Fergusson, Watertown, U. C.; Henry Whitney, New Haven, Conn.; H. D. Grove, Hoosick; G. V. Sackett, Seneca Falls; Edward A. Le Roy, Avon.

On Cows, &c. Classes IX, X, XI.—L. C. Ball, Hoosick; Thos. Weddle, Rochester; Lyman Hibbard, Homer; John Ayrault, Perrinton; Elijah W. Sheldon, Seneca.

On Cows, &c. Classes XII, XIII, XIV.—Daniel H. Fitzhugh, Mt. Morris; Wm. Parsons, Lockport; Jno. Webster, Hamburg; Abel Baldwin, Clarkson; Lee Comstock, Le Roy.

On Working Oxen and Steers.—Wm. A. S. North, Schenectady; Israel Boies, Homer; Obadiah Hoag, Lockport; C. A. Godfrey, Geneva; E. Marks, Navarino.

On Fat Cattle and Fat Sheep.—P. N. Rust, Syracuse; Allen Frost, Rochester; J. C. Mather, Schaghticoke; Holloway Long, York; William Otley, Phelps.

On Stallions and Matched Horses.—Francis Rotch, Butternuts; Allen Ayrault, Genesee; F. F. Backus, Rochester; Samuel Greenleaf, Canandaigua; J. R. Speed, Caroline.

On Mares and Colts.—W. T. Porter, New-York; D. D. Campbell, Schenectady; Abram Vought, Mendon; Joseph Christopher, Rochester; Dan Hibbard, Cortlandville.

On Swine.—T. C. Peters, Darien; E. Wolcott, Rochester; Ezra Cornell, Ithaca; O. F. Marshall, Wheeler; Wm. Salisbury, Leeds.

On Sheep, Classes I, II.—R. L. Allen, Buffalo; S. E. Hudson, Palmyra; F. M. Rotch, Butternuts; Ira S. Hitchcock, Oneida Castle; Jared Colman, Rochester.

On Sheep, Class III.—J. P. Beekman, Kinderhook; William Randall, Cortlandville; L. A. Morrell, Lake Ridge; R. Harmon, Jr., Wheatland; R. C. Nicholas, Geneva.

On Plovers.—Geo. W. Patterson, Westfield; Myron Adams, East Bloomfield; C. C. Dennis, Auburn; John Moxon, Charlotte; C. S. Button, Newark.

On other Agricultural Implements.—L. B. Langworthy, Rochester; J. C. Langdon, Troy; Geo. C. Latta, Charlotte; T. D. Burrall, Geneva; C. F. Crossman, Rochester.

Plowing Match.—J. B. Nott, Guiderland; Theron Brown, Wheatland; E. A. Howland, Ledyard; William Gorham, Canandaigua; Jno. H. Robinson, Henrietta.

On Butter and Cheese.—Rob't Deniston, Salisbury Mills; B. P. Johnson, Rome; Laurens Hall, Angelica; Dr. T. Goodsell, Utica; Z. Barton Stout, Richmond.

On Maple and Cornstalk Sugar.—John Greig, Canandaigua; H. S. Randall, Cortlandville; Thomas Hillhouse, Albany; A. B. Dunlap, Ovid; John Vernon, Mt. Morris.

On Silk.—Orville Hungerford, Watertown; Henry Polhemus, Auburn; T. Mellen, Madison; William Kidd, Rochester; Robert Rose, Richmond.

On Domestic Manufactures.—Samuel Cheever, Albany; Lewis Brooks, Rochester; Geo. Byington, do.; M. W. Soper, Batavia; J. B. Dill, Auburn.

On Vegetables.—Abner Bryant, Buffalo; Lemuel Thompson, Rochester; William Blossom, Canandaigua; Asa Rowe, Sweden; Dr. Beaumont, Lyons.

On Fruits.—J. J. Thomas, Macedon; John R. Murray, Mount Morris; Benjamin Hodge, Buffalo; N. Goodsell, Rochester; Dr. Doty, Montezuma.

On Flowers.—Alexander Walsh, Lansingburgh; P. Barry, Rochester; M. B. Bateham, do.; S. E. Wheeler, Troy; James H. Watts, Rochester.

On Discretionary Premiums.—J. B. Duane, Schenectady; Jno. J. Vicle, Lansingburgh; Harvey Baldwin, Syracuse; J. McDonald McIntyre, Albany; G. I. Pumpelly, Oswego.

PREMIUM ON STEERS.—The following were added to the Premium List:

Three Year old Steers
Best pair, \$10 | Second best, \$8
Third best, vol. of Transactions.

Two Year old Steers
Best pair, \$5 | Second best, \$4
Third best, vol. of Transactions.

M. B. BATEHAM, Esq. Rochester, was appointed Assistant Secretary for the Fair.

J. M. SHERWOOD, Esq., was appointed a committee to make arrangements with the several Railroad Companies for the transportation of stock to and from the Fair.

Hon. ISAAC HILLS, Dr. ALEX. KELSEY, and Gen. J. GOULD of Rochester; Hon. C. H. CARROLL of Livingston, and LUTHER TUCKER of Albany, were appointed a committee on invitation and reception of strangers.

The Executive Committee adopted the following:

REGULATIONS FOR THE FAIR.

The premiums for Essays and for Agricultural Implements, will be open to the United States; but all others will be confined to residents of this state, who are members of this Society, or who may become so by the payment of one dollar on entering their articles, and to the members of the Monroe Co. Ag. Society, who shall have paid their membership for the present year.

All persons who intend to exhibit cattle, horses, sheep or swine, should give notice to M. B. BATEHAM, Assistant Secretary, Rochester, or to LUTHER TUCKER, Albany, previous to the 10th of September, in order that the necessary accommodations may be made for them; and all animals must be on the ground by 9 o'clock of the 20th.

All those who intend to compete for the premiums on agricultural implements, butter and cheese, sugar, cocoons, silk, &c., should have their specimens on the ground on the 19th, that they may be deposited in their appropriate places, and the rooms suitably arranged on the day previous to the Fair.

Applicants for premiums are requested to pay particular attention to the notes attached to the premiums on Dairy Cows, Fat Cattle and Fat Sheep, Butter and Cheese, Field Crops, Maple Sugar, &c.

The statements required from those who compete for field crops, must be sent to LUTHER TUCKER, Rec. Secretary, Albany, previous to the 1st of January, 1844, and the premiums will be awarded at the annual meeting of the Society, on the third Wednesday of January.

Competitors for the premiums on Essays must forward their manuscripts to the Recording Secretary, Albany, previous to the 1st of January, 1844, free of postage.

No Premium will be awarded, unless, in the opinion of the Judges of the Class in which it is offered, the animal or article is worthy of such premium.

Prize animals and implements at the previous exhibitions, will be allowed to compete for the prizes; but they must receive a higher prize, or in a different class, to entitle them to a premium. Should the same premium heretofore given them be awarded, they will receive a certificate to that effect, instead of the prize.

All premiums will be paid in cash or plate, at the option of the winners.

SALT AS A REMEDY FOR THE CUT WORM.

We give the following, from a letter from F. J. BETTS, Esq., the President of the Orange Co. Ag. Society. The use of salt seems to have proved an entire protection to his plants for two years in succession. This fact, if our readers will remember and act upon it, may save them enough to pay for the Cultivator for several years.

"I am making some very careful and accurate tests of the effect of various saline manures upon maize, this year, the results of which I will communicate to you in due season.

"A good deal has been said in the agricultural papers about the effect of common salt as a manure, and also as a remedy for the cut worm. I used it last year, as you will probably remember, sown broadcast, at the rate of two bushels per acre, and my field escaped the ravages of the worm entirely, although my immediate neighbors were all complaining of its being uncommonly destructive. Last fall, I was planting fruit trees in the field which I have this year appropriated to Indian corn, and I found the soil literally filled with the cut worm. I again sowed salt in the same quantity as last year, immediately before plowing the ground this spring, and I have not lost a single plant from its ravages, and I believe therefore, that there is no doubt that salt is a certain remedy for that pest of the agriculturist."

SPOKEN FOR.

DECIDEDLY the best thing we have seen the present season in the way of illustration, is a cut accompanying a communication in the June No. of the Farmer's and Mechanic's Journal, published at Chagrin Falls, Ohio. It is not the beauty of the engraving that strikes one, but the truth, we had almost said sad truthfulness of the cut, that will fix the attention of all farmers who may meet with it. The man who drew that, had an eye for nature, and the past season furnished but too many similar subjects for the pencil of an amateur. The cut represents a sheep—she looks as though she might be the last of a flock—endeavoring to shelter herself behind a broken and dilapidated fence from the piercing blasts of March. Her wool has fallen off in large patches on her rump, sides, back and neck; her shrunken form speaks of lack of hay and want of turneps; and every thing indicates a sheep that had seen better days, but had now reached the lowest depth of poverty. Two or three crows are seated on the fence near her, apparently deliberating whether they should commence picking her ribs now, or wait a few hours longer for the scanty meal she would furnish; while others are seen on the wing, hastening to join the consultation or the feast. The whole is worthy of Hogarth himself, and would have made a capital close to "The Poor Farmer's Progress," had his inventive genius chosen that field for its exercise.

DICTIONARY OF TERMS USED IN Agriculture and its kindred Sciences.

MEAT.—The flesh of animals is composed of azote, carbon, oxygen, and hydrogen, combined in various proportions, so as to constitute fibrin, albumen, gelatin, and osmazome; and it is on these substances that the value of meat for the purpose of nutrition depends. Fibrin constitutes the greater part of the muscular fibre, and no small part of the blood of animals. Albumen occurs in animal substances in two forms, fluid and solid. The white of an egg is an example of the first form, and cartilage, hair, nails and horn, of the second. Gelatin abounds in animal substances, and is most abundant in those that are young. It is found in the bones, ligaments, tendons, skin, muscles, and more sparingly in the other parts of animals. Gelatin forms a tremulous or solid jelly, is highly nutritive, but its digestibility has been overrated. Osmazome is the principle to which meat owes its taste and odor when cooked. White meats, such as veal and chicken, contain little of this substance, but it abounds in the red fibrin or muscle, such as constitutes beef and mutton. Wild animals, such as the hare or partridge, squirrel or venison, have more osmazome than the tame ones, and their flesh is more highly esteemed. The value of meat is much depending on the manner in which it is cooked. Prof. Wallace of Edinburgh, instituted a series of experiments to ascertain the loss by the different modes of cooking, and allowance made for the bones; the following was part of the results:

100 lbs. of beef, lost in boiling,.....	26½ lbs.
100 " " " in roasting,.....	32 " "
100 " " " in baking,.....	30 " "
100 " of legs of mutton, averaging about 9½ lbs. each, lost in boiling,.....	21½ " "
100 " of loins of mutton, averaging 8½ lbs. each, lost in roasting,.....	36½ " "
100 " necks of mutton, averaging 10 lbs. each, lost in roasting,.....	32½ " "
100 " shoulders of mutton, averaging 10 lbs. each, lost in roasting,.....	31½ " "

It is clear from these experiments, that less weight is lost by boiling than roasting, and the average loss of meat in cooking may be stated at about 28 per cent. Meat boiled violently for a long time loses more of its weight, and is not as good as when gently boiled a shorter time. In the first case, the albuminous part is so much overdone as to be worthless, and the gelatinous, instead of being fully softened, which is all that is required, is dissolved and lost in the water by boiling. For broth, meat containing the most osmazome is to be preferred, such meat rendering the fluid more nourishing and savory.

MILCH COWS.—The value of milch cows is depending on several circumstances, such as the quantity of milk produced, the butter it will make, the time of going dry, and the gentleness of disposition, ease of milking, &c. It is not always the smoothest and handsomest cows that are the best milkers; on the contrary, a disposition to take on fat is rarely found combined with great milking qualities. In England, the Ayrshires are great favorites as milkers; but there, as here, occasional instances in all breeds are found where large quantities of milk are produced. In this country, considerable discussion has taken place as to the respective milking qualities of the Short Horns and the native breeds, and an ample list of the best that could be selected on both sides, with the quantities of butter and milk produced, may be found in Mr. Colman's 4th Report on the Agriculture of Massachusetts. We select a few of both kinds, to show the immense difference there is in profit, between keeping good cows and poor ones.

Cow Belina, S. H., Mr Powell, butter per w'k, 20½	
Blossom, S. H., Mr. Canby, " " 17½	
Oakes cow, N. B., Mr. Quincy, " " 19½	
Nourse cow, N. B., Mr. Nourse, " " 20	
Springfield, N. B., Mr. Henshaw, " " 21	

And any number of the common native breed may be produced that will yield from 12 to 15 lbs. per week. The amount of milk that some cows will give is truly astonishing. As an example, we give the product of the celebrated Cramp cow of Lewes, in England, premising that some of the instances furnished by Mr. C. fall but little below.

Year.	Time milked.	No. of quarts.	Lbs. of Butter.
1805	48 weeks.	4921	540
1806	45 "	4137	450
1807	51 "	5782	675

MILDEW.—This is a disease which attacks both living and dead vegetable matter; and causes the farmer most serious losses by producing blight in his crops. It is generally attributed to meteoric agency, such as dew, fogs, showers, &c., but is in reality caused by minute fungi, or parasitical plants. How far atmospheric changes may predispose plants to the attacks of these fungi, is a question worthy of investigation. Some of these fungi attack plants internally and some externally. Of the first of these is the *Uredo fetida*, which causes the smutty kernel in wheat. It attacks and fills the young seed with myriads of its stinking deep brown spores, which end in filling and rendering worthless the whole grain. *Puccinia graminum*, the common mildew or blight of wheat, is generated in cavities below the epidermis or skin of the plant, and protrudes when ripe, in the form of dark grey broken striae or lines. *Aecidium cancellatum* is the blight on pear trees, and appears in bright yellow spots upon the upper surface of the leaves. What is called the fire blight in the pear tree, is the work of an insect. The orange red mildew of the Barberrry, is *Aecidium berberidis*. *Sclerotium compactum*, occasionally establishes itself

on the rind of fruits, rendering them uneatable; one of the varieties of the *Sclerotium* is supposed to produce the bitter rot, one of the worst diseases of the apple. Of the fungi that attack the exterior of plants, the following are some of the most common. *Erysiphe communis*, and *E. paucosa*, which are the mildew of the pea and the peach. *Botrytis diffusa*, forms the white mealy substance on the leaves of onions and similar plants. The mildew which forms the whiteness on the leaves and stems of roses, is the *Acrosporium monilioides*. The attacks of all these parasitical fungi are brought on by an unhealthy state of the plant, occasioned by a want of nutrition, an excess of it, or by atmospheric causes. Deep colored roses and peaches, are the most liable to mildew, and this has been supposed to arise from constitutional debility, for their color is owing to a want of power to decompose carbonic acid. Mr. Knight stopped the attacks of mildew on his pear trees, by taking them up, washing their roots clean, pruning them closely, and removing them to a new situation. The best preventive of the mildew in wheat, is a well drained and limed soil, the avoidance of too much fresh manures, and the removal of all causes that prevent a free circulation of air.

MILK.—Milk is composed of water, serum, &c., and globular particles one ten-thousandth of an inch in diameter, which are composed of fatty matter, (butter,) and a coagulable matter, (caseum,) from which cheese is produced. These globules rise and constitute cream. By the agitation of churning, the fatty globules unite into a mass, leaving the buttermilk, consisting of caseum and serum. The following table from M. Pereira, will show the preparation of the several ingredients in the most common kinds of milk.

100 parts of the Milk of the	Cream.	Butter.	Caseum.	Sugar of Milk.	Total of Butter, Caseum and Sugar.
Ewe,.....	11.5	5.9	15.3	4.2	36.9
Goat,.....	7.5	4.25	9.12	4.25	19.6
Cow,.....	4.6	2.68	8.95	3.60	16.23
do,.....	4.5	6.10	3.5	14.10	
Woman,.....	not stated.	8.16	0.180	7.62	13.96
do,.....		0.260	7.96	13.39	
do,.....		8.18	0.240	7.86	13.28
Ass,.....	2.9		2.3	4.8	6.8
Mare,.....	0.8		1.62	8.75	10.39

From this table, it will be seen that the milk of the ewe is richer than any others in the total of its contents; that woman's milk gives the greatest per cent of butter; and that mares' milk yields the most sugar of milk; but slightly exceeding, however, woman's milk in this respect.

TRANSACTIONS OF THE N. Y. S. AG. SOCIETY.

THAT the friends of the State Ag. Society may know the estimation in which their annual publication is held in other states, we copy the following notices:

"We have received from the Secretary of the N. Y. State Agricultural Society, the Transactions of that body for 1842. It is a large octavo volume of more than four hundred pages, handsomely printed, handsomely bound, and full of valuable matter. It contains several portraits of animals and implements of husbandry, plans and elevations of farm buildings, &c. It is a valuable work, and hereafter the Transaction of the N. Y. State Agricultural Society will be quoted and referred to as good authority, and as a fountain of agricultural information."—*Maine Farmer*.

"The volume contains 410 pages, as varied in subjects as they are interesting to the agricultural reader. The several communications are from gentlemen of experience in farming, and of enlightened minds, and combining, as they do, practice with science, lends a value and a charm to their writings which cannot be too highly appreciated. We shall transfer to our columns much of the contents of this rich work, and can therefore vouchsafe to our subscribers, in the current volume of the American Farmer, a fruitful harvest of that kind of learning, which is treasured the more by the husbandman, because it is the result of practical knowledge illumined by the lights of science."—*Am. Farmer*.

"As in the last volume, so in this, we meet with matter of great ability and of general and absorbing interest. Among other things, we find two prize essays from the pen of Willis Gaylord, Esq., occupying sixty pages, every word of which we should be glad to transfer to our columns, if the nature of our work permitted. As it is, we must be content with making brief extracts from such portions of these essays as we deem most interesting to our readers."—*Southern Planter*.

"This is a handsome volume of more than 400 pages, and however exalted our expectations may be in relation to the agriculture and public spirit of the Empire state, it really does them credit. We have read the address of Gov. Seward at the Annual Fair, last fall, and that of the President, James S. Wadsworth, before the Society in the winter, with a great deal of satisfaction. There is embodied in the work, an abundance of matter in detail, highly beneficial to the farmer, and particularly calculated to encourage him to look abroad among his brethren of the plow, and gather from the progress they are making, fresh incitements for the agricultural race before him."—*Farmer's Cabinet*.

"This work is too valuable to be despatched in a single paragraph, and we cannot better serve the public and do justice to the many able and instructive articles it contains, than by giving them at length in our columns as time and opportunity offer."—*Farmer's Advocate*.

Original Papers from Contributors.

Lloyds, Essex Co., Va., May 16, 1843.

MESSES. GAYLORD & TUCKER—I enclose a communication, which was prepared for the Cultivator by my grandfather, Mr. JAMES M. GARNETT, and accidentally mislaid. Since his lamented death, I have found it, and now forward it to its original destination.

I avail myself of this occasion to say how highly he esteemed your paper, as one of the most useful and efficient friends of agricultural improvement.

Yours, very respectfully,

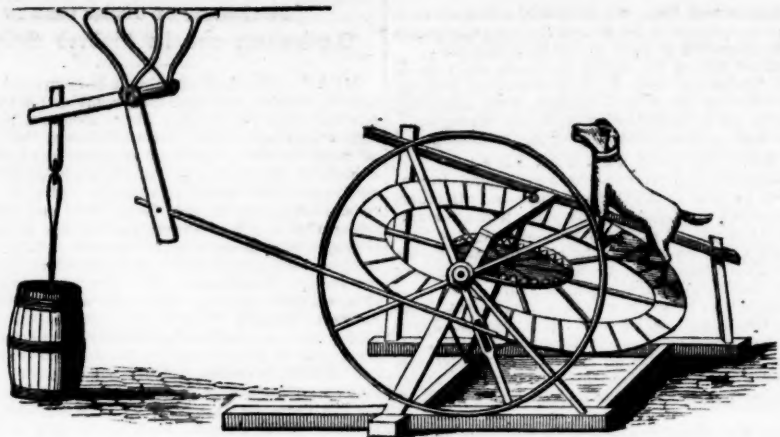
M. R. H. GARNETT.

COMMENTS ON THE NOVEMBER NO. OF THE CULTIVATOR.

THE circumstance of this No. containing little else than details of the proceedings of the various Agricultural Societies in New-York and elsewhere, has produced some malcontents among your readers. But with all due sympathy for the querulous temperament of such complainants, I must venture to tell them that they have no just cause for dissatisfaction. Are they so short sighted as not to perceive that such details furnish the most satisfactory proofs that the agricultural spirit is rapidly diffusing itself throughout our whole country; and that the mere statement of those details is calculated to rouse this spirit into action in all those parts of the U. States wherein it has never yet exhibited any symptoms—even of existence? We are all mimetic creatures, and hence some cynical wits have insisted that we were at least cousin-germans to the Simia or monkey genus of animals. But be this as it may, 'tis certain that our imitative propensities will lead us to do, or at least to attempt to do, whatever we see others do before us,—especially if we once believe it to be the fashion. Consequently, even our teraphim-like brethren will be tempted to establish Agricultural Societies, when they see such associations springing up around them in every direction, and infusing animation and activity into extensive districts, where all before was listlessness and deadly torpor.

YOUR Governor's Address to your State Agricultural Society, deserves all the praise you have bestowed upon it. But if a private, unknown individual, may be permitted to dissent from any part of the production of a gentleman who occupies one of the "high places" in our country, I would most respectfully beg leave to say, that there is one material point in which I cannot agree with him. It is in regard to what he says of the immigration of foreigners into the United States. He seems to take it for granted, that it must necessarily have been indiscriminate from the beginning. But this I have never been able to see. Why might we not have received the thousands upon thousands of meritorious individuals who have sought a home in our country, and whom I prize as highly as any person whatever, with a far less portion of the vagabonds, paupers, and fugitives from justice, who have been annually disgorged upon our shores, and have been spreading in all directions, such an enormous and fearful amount of moral poison, that the united power of all our conservative principles can scarcely counteract its greatly diversified and fatal influences? In my humble opinion this might have been prevented in a great measure. But perhaps Gov. Seward considered our policy so fixed on the subject of immigration, that it was not worth his while to state any objections to it.

In examining the Reports of your various Committees, with a view to ascertain the principles upon which they have awarded their premiums, it has struck me with some surprise what little regard they seem to have paid to the cost of production; although this surely should be made the primary consideration both in offering and awarding premiums. The greatest art of husbandry, in all its branches, is to obtain the most beneficial results, so far as practicable, at the least expense; and all premiums should have for their object the attainment of this art, or they do more harm than good,—not only to the particular branch which they are designed to encourage, but to husbandry in general, by promoting extravagance rather than economy. The wealthy may obtain such premiums, who care not at what expense they are procured, but the comparatively poor farmer or planter is a fool, if he becomes a competitor for such costly distinctions. I will take the single case of the first premium awarded for the fattest ox, to illustrate my meaning. This was given to Mr. P. N. Rust, whose ox, I have no doubt, was the fattest, probably too fat to eat as well as beef that was somewhat leaner. But that is not the point to which I would call the attention of your readers—it is to the cost of production. The facts by which they are to be calculated are thus stated. Time of fattening the ox, 19 months, or 570 days. Corn meal given per day, from 12 to 16 quarts, average 14 quarts. Corn valued at 37½ cents per bushel, although I think it should have been estimated at 40 cents, as it was ground into meal. Hay per week, 25 cents worth. Ruta bagas or potatoes per week, 50 cents worth. No allowance was made for attendance, probably because the manure was deemed sufficient to pay for it, although I doubt it. Now let any person who pleases, cast up the whole expense of fattening Mr. Rust's ox, and then say how many beef eaters he believes there would be out of every hundred New-York farmers, if their beef meat cost them all as much; or how many beef fatteners for market could be found throughout the whole state. Unless my arithmetic deceives me, he would guess that they would be "rather scarce."



DOG POWER CHURN.—(Fig. 58.)

MESSES. GAYLORD & TUCKER—I herewith send you a sketch of the Dog Power machine in general use for churning in this (Orange) county. The churns are generally of the capacity of 1½ to 2 barrels each. One dog of the ordinary house dog species is sufficient to work one churn, but when two churns are worked at the same time, as is usual in our large dairies, two dogs will be required to drive the machine. The tread wheel is ordinarily made about 7 or 8 feet in diameter. The large balance wheel is now made of cast iron. Besides this, the whole affair is so simple, that further explanation is deemed unnecessary; as I think any individual, after an examination of the above plan, will understand it perfectly. The power, of course, is easily used in the cellar, while the machine is entirely outside the building.

Newburgh, June 26, 1843.

Your obt's serv't,

T. M. NIVEN.

MR. LINCOLN's report upon swine, shows that papers of the kind need not be such dull, unentertaining matters of fact things as they generally are, but that in the hands of a master workman, they admit of much playful and humorous embellishment. His play, however, upon the words "here" and "hair," is not of a piece with the rest of his report.

THE speeches at your agricultural dinner were all of them of the right sort for such an occasion; and some of them tickled me "considerably," as brother Jonathan would say. It would have gratified me highly to extend the right of fellowship to all the speakers, for each said something very appropriate, at the same time that all evinced the true spirit of amity and concord which should forever bind together our whole brotherhood, however separated they may be by country or distance.

YOUR own account of the Show at Worcester, and Mr. C. N. Bement's account of the Berkshire Show, deserve the particular attention of all our brother farmers, who use horses or mules for the plow instead of oxen. Very few, I believe, have yet made a fair comparative trial between the three kinds of team; although it is a matter of great importance, as regards the expense, to ascertain which it is best to keep. I have examined much evidence on the subject, but have never made any comparative trial on my own farm. Yet my own belief is, (from all I have heard or read,) that a great saving might be made by working oxen only. This belief has been confirmed by noticing that our Yankee brethren, who are certainly the best practical economists in our country, universally use oxen. It is within my own knowledge that they are quite as docile as horses or mules; that they will plow single, and without leaders full as well; and that they may be as readily broke to draw single, in light cars, wherein they will move as fast as ordinary horses or mules do at such work. They will likewise bear heat as well, if regularly fed and worked in the same manner. Indeed, I once knew an instance where a friend of mine, who having a mixed team of horses, mules and oxen, had "over crop" himself, (as they say in the south,) and his oxen stood their work throughout the season much the best. Another instance was mentioned to me, some years ago, of a southern farmer, well known to me as a good manager, who worked oxen only at the plow, and without giving them any grain. But he kept a double set, and worked each one half the day. During the interval of rest, they had plenty of grass. Now, even admitting that horses or mules could be treated in the same manner, and do the same work, oxen would still have the great advantage of being eatable, which horses and mules are not, at least to the knowledge of us Americans.

THE account of the exhibition by the Horticultural Society of Boston, is one of the most interesting things which has ever appeared in your paper; and ought to excite every where, an earnest desire to encourage similar associations, and similar modes of celebrating their anniversaries. Such social meetings of the two sexes deserve all the encouragement that can be given to them, for they result in nothing but good—unmixed good to both parties. To us men the effect is highly beneficial in every point of view; it softens the natural coarseness of our manners and conversation; it refines our groveling tastes, and elevates all our moral aspirations. Whilst the other sex,—if treated as we ought to treat them, and as they would be on such occasions,—will be led by it, in aid of other moral influences, to form that just estimate of all their peculiar duties—of their true position and powers to do good in society, which will really make them at once the most amiable and best of all God's known creation.

Your London correspondent has stated one fact into

which I hope you will make farther inquiry; as your readers, I am sure, would be highly gratified by it. This is the Belgian Count Howpésch's "patent for the preparation of a manure, more powerful and cheaper than any yet invented." None of these recently discovered manures, I believe, are said to combine both the essentials of superior power and cheapness, unless it be Mr. Bommer's; and he has neglected to give us all the facts which would enable us to judge. The prices of his patent rights are moderate enough; but unless we know the cost of the material, and the process necessary to make the manure, and could also see some authentic statements of its effects when applied to the earth, we must remain rather sceptical in regard to the full extent of the promises made for it. Still the recommendation of your committee is sufficient to justify as many experiments with it as will suffice to determine its true value. Your correspondent mentions another thing which has excited at least my own curiosity, and probably the curiosity of many others of your readers. I mean the Agricultural Tour of Count Conrad De Gourcey, through England and Scotland. Would it not make a very saleable reprint in our country, or a good article for your paper published in parts? I have no doubt that a majority of your readers would be much better pleased with such an article, than with the accounts of enormously large fat pigs of rival breeds; of prodigiously big roots, and sundry other marvels which they occasionally see in your paper, teaching as little to amuse as to edify, but for the publication of which, be assured Messrs. Editors, I do not blame you. I have always supposed that such communications were sent by some of your subscribers, worthy men probably, whom you were unwilling to disoblige. But at the same time I could not help suspecting either that they were writing for such readers as some satirist says,

"Are pleased with a feather—tickled with a straw,"

or that they themselves belonged to the same class of easily pleased, good natured quid nuncs, who are quite as numerous among our brethren as they are in other classes.

On the last page of this number I see that another wheat machine and horse power has been patented to a Mr. Warren. This practice of granting patents for implements and machines of every kind, but especially for those called agricultural, merely on account of some little alteration which is really no improvement, has become so common as generally to excite a strong prejudice against every thing which has the term "patent" stamped upon it. With many persons it amounts to a noli me tangere—touch me not. I mean not to apply the remark to Mr. Warren's, for I never saw them; but the advertisement presents a fit occasion to suggest the propriety of still farther amending our patent law, so as to increase the difficulty of obtaining patents. One mode of doing this, would be so to apply a part of the large revenue derived from the patent office, as to provide the means of actually testing all agricultural machines and implements presented for a patent, and making it the imperative duty of the chief officer not to grant one in any case, unless upon actual trial it should appear that some real improvement had been made. Models alone will very rarely suffice to demonstrate this satisfactorily; for the most scientific machinist cannot always be certain how a machine will work until he sees it in operation. As the patent law now stands, the fees paid for patents constitute a source of revenue, and consequently there is a constant temptation to grant them on very insufficient grounds; and hence it is that patent machines and implements so often prove good for nothing, that few experienced farmers will risk their money in buying any of them, until they can see them tried, or can obtain assurances of their efficacy from some person on whose judgment and veracity they can depend.

COMMENTATOR.

CULTURE OF COTTON.

MESSES. GAYLORD & TUCKER—I perceive from your last number that Dr. Cloud's plan of cultivating Cotton, or at least his statement of its results, is received generally with small favor and less faith. While those of "little faith" and perhaps of smaller works, are condemning his plan and discrediting his statement, it is but fair that those who have adopted similar modes of cultivation, with similar results, should give him and the public the benefit of their testimony.

In the months of January and February, in the year 1841, I had a lot of 5 acres opened at intervals of 3½ feet, with furrows down to, and sometimes into the clay. In these furrows I deposited stable manure at a rate of not less than 400 bushels per acre, and running immediately upon each side of these furrows with a turn plow, I buried the manure. Thus my beds for cotton were partly made: the superincumbent soil prevented, at least in part, the escape of the volatile portion of my manure, which being put deep, and the soil gradually accumulating over it in the process of cultivation, it was kept at all times properly moist, without which it does but little good.

Cotton being a tap-rooted plant, I doubt not that it would be an improvement upon the above plan, to open with a coulter plow, the clay or subsoil in or rather under these furrows, before depositing the manure; to the end that the soluble portion of the manure might subside gradually to a still greater depth. The lot which I manured upon the above plan, was originally a thin soiled chestnut ridge; had been cleared between forty and fifty years, and was of course completely exhausted. Indeed, 200 lbs of seed cotton per acre, would have been considered a good crop for such land, upon the usual plan of cultivation without manure. About the last of March, I put two additional furrows with a turn plow, which completed my beds. These beds I opened with a coulter, sowed the seed in the usual manner, and covered with a board. This lot, thus manured and planted, received no extra care in the after culture, but was treated in every respect like the balance of my crop. The result was 4,430 lbs. of seed cotton from the lot, or 886 lbs. per acre. But as I sowed this lot in wheat in the fall of that year, and before the cotton had been all neatly gathered, I may fairly set down the yield of the lot at 4,500 lbs., or 900 lbs. per acre. Here was an increase of between four and five fold the first year, and as I have planted upon land similarly treated, and gathered a second crop equal to the first, I consider myself as yet in the midst of an experiment, the final result of which can alone determine the full amount of benefit to be derived from a single application of manure. It will be at once observed that my plan differs in several points from Dr. Cloud's. I drill at 3½ feet, and chop out in the usual way, leaving the stalks as nearly as possible from 18 inches to 2 feet apart: while he checks at 3 by 5 feet. Thus he gives to each plant an area of 15 square feet, while I do not give an average of 7. He spreads and plows in 300 bushels of manure per acre, broadcast, while I apply none in that way. His was a deep sandy soil, with clay at a depth of 2 or 3 feet; mine a very shallow, stiff, red soil, with a very firm red clay, lying at various depths, from 0 to 6 inches below the surface, with an abundance of white flint or quartz rock upon it. The 300 bushels of manure which he applied broadcast, was doubtless of great advantage to his crop, and would in all probability have doubled mine. In other respects, I think his plan the best for his land; and mine, with a little more space to each plant, the best for mine.

The incredulous will of course consider this experiment of mine as lending no countenance to Dr. Cloud's statement; but when every circumstance is fairly considered, I think it does. My experience, however, does not stop here. I cultivated the same year another small lot about 85 yards long and as many wide, or 7225 square yards, which is 1 477-968 acres, or rather less than an acre and a half. This lot, in its primitive state, was of precisely similar quality with the 5 acre lot. About one-third of an acre of this, certainly not more, had been for several years a stable lot; the balance of it, descending from this by a considerable declivity, I cultivated, believing it may have been benefited by washings from the stable lot portion. The surface soil had been nearly all washed away for years. The manure upon the stable lot portion had been carefully scraped up and removed, so that the manure left was such only as had been absorbed by the soil. To the other portion no manure was applied. This lot was broken up deep and planted about the last of March, and the rows running horizontally around the declivity, were from 3 to 4 feet wide, according as the land was considered poor or otherwise. From this lot I gathered 1,707 lbs. of cotton in the seed. Of that I set down 1,400 lbs. to the stable lot portion, leaving to the balance 307 lbs., which I am sure is a liberal allowance. But little of the weed on this lot, except on the stable lot portion, attained a height of 18 inches,—much of it not even 6 inches. The stable lot portion had attained an average height of 6 feet by the last of July, and was so much interlocked that it was impossible to pass through it without doing great injury to the branches. By the middle of August, the weed on this portion ceased growing, and the whole vegetative energy of the plant seemed directed to the development and maturing of bolls, of which there were vast numbers. This cotton suffered much from two causes. It was too much crowded, which caused a very great number of the earlier or bottom bolls to rot for want of sun and air. Towards the latter part of August, a wet spell of weather of several weeks du-

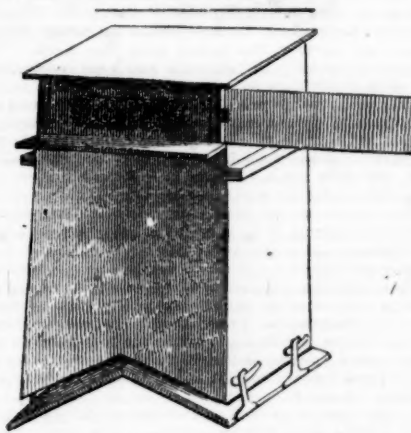
ration, set in, which producing a second growth of the weed, caused vast numbers of bolls, blooms, and young bolls to fall off, which a moderate season would have matured. Under all these disadvantages, there was still a yield at the rate of 4,200 lbs. per acre.

I have only room to add that I highly approve of Dr. Cloud's plan, and that my own experience and observation forbid that I should discredit the general correctness of his statement. I have long been of opinion that it would be of great service to the cotton region of S. Carolina and Georgia particularly, to divert at least one-third of all the labor employed in raising cotton to raising manure. The result would be equal crops of cotton at least, upon a greatly reduced number of acres; the improvement and renovation of our worn lands; larger crops of corn and grain; more hogs, cattle, sheep, horses and mules raised at home—our country, in short, adorned, beautified and enriched.

Very respectfully, yours,

S. FOUCHE.

Taliaferro co., Geo., June 23, 1843.



AN IMPROVED BEE HIVE.—(Fig. 59.)

MESSES. GAYLORD & TUCKER—I propose, in the following communication, to present to your readers the plan of an improved beehive, which they can use gratis. I believe it to be but little, if at all, inferior to any that has ever been presented them. The various plans that have heretofore appeared in the Cultivator, are either non-swarmers, or they are encumbered with a patent. Experience has taught us that non-swarming hives are not as profitable as the swarming, and their use cannot be advisable, except for purposes other than profit. The patent hives appear to be nothing but improvements upon the Charleshope hive, said to have been invented by Mrs. Mary Griffith of New-Brunswick, N. J. The writer has used the above hive with admirable success. A description of it may be found in the North American Review, for June, 1828, or the Family Encyclopedia, edited by my respected townsman, C. A. Goodrich. The plan here presented is another improvement upon the same hive. (See illustration, fig. 59.)

DIRECTIONS FOR MAKING.—In making the hive, use nothing but clear stuff, such as is free from knots and shakes. Cut the two side boards thirteen inches wide and twenty-four inches long; cut the back board fourteen and three-fourth inches wide and twenty-four inches long; cut the front board fourteen and three-fourth inches wide and eighteen long. These four boards are to be planed smooth, and put together in a good, workmanlike manner, nailing the front and back boards to the side boards. Cut a board for the top, so large that, when nailed on, it will project over the four sides of the hive about one-half of an inch. Fit a board into the hive that will shove in above the front board, of sufficient length to project out front, when it is put in its place, say half an inch. This board divides the hive into two apartments; its under side should be left rough, for the convenience of the bees, as they can more easily attach their comb to a rough than a smooth surface. To form a communication between the two apartments, bore two holes, one inch in diameter, about three inches from each corner of the dividing board, making in all eight holes. Let a box, made of half inch stuff, be snugly fitted into the upper apartment, for a depository of surplus honey, having holes in the bottom corresponding with the holes in the dividing board. For the convenience of the apiarian, introduce a glass into the front end of this box. Fit a door to the upper apartment, and hang it at one end with a common door butt. In cutting the angles for the bottom of the hive, find the centre of the front, (also of the back,) five inches from the bottom; and from these points, draw lines to the corners of the bottom and outer edges. The small triangular pieces, below these lines, must be sawed out. For a bottom, cut two boards, two inches longer than the bottom of the hive, and fit them together at such angles as will fit the bottom, and of such width as to project, when put in its place, three-eighths of an inch on each side. Secure the bottom from warping, by nailing cleats to the under side. The bottom may be hung at the back with common butts, and suspended at the front with hooks made of wire; but it would be better to suspend it on hooks and cleats. It



can then be easily removed. The illustration A. represents a cleat, and B. a hook.—Every hive will need four of each, two on each side. The cleats (do I name them right?)

should be three-eighths of an inch thick, and from 3 to 5, two inches. The back end of these cleats, when screwed to the hive, must be elevated so as to form an inclined plane, so that when the bottom board is pushed back, it will close the hive. The hive is kept closed by means of a button on the front. By means of this button, the apiarian can give the bees any desired quantity of air, as the turning of the button will let the bottom slide back, and when it is entirely unbuttoned, if it be rightly hung, the space between the hive and bottom will be three-fourths of an inch. Across each side of the hive, nail a strip of wood, on which the hive is suspended when in the apiary. The above directions may be thought superfluous. They are not intended for a carpenter, but for the farmer, should he wish to make his own hives during the leisure of winter. To such, they may not be useless.

The superiority of the above hive over the common box must be apparent to every one who is at all acquainted with the management and culture of bees, or who knows any thing concerning their nature and habits. In extracting honey from the common box, it is always necessary to use the pruning knife, unless the apiarian plots the entire destruction of his bees, and executes his foul purpose by the use of fire and brimstone. The pruning of bees in autumn is unadvisable and unnecessary, if the above hive or the Charleshope is used.

Other advantages it derives from its suspended nature. This property it possesses in common with the Charleshope and Weeks' and Hall's patents. A suspended hive is removed from the depredations of the mouse. Besides, it is easier opening and shutting it for the purpose of ventilating, or preventing the depredation of robbers, after the destruction of the flowers by the frosts of autumn. Few hives will be found as convenient as this, when you wish to introduce in it a new colony. This is owing to the shape of its bottom.

A very useful article to an apiarian is a pair of mittens, made so long as to draw over the coat sleeves, and cover the arms half way to the elbows. They should be bound round the top with India rubber, that they may hug the arm. A pair of leather gloves, pieced up with the leggings of a pair of stockings, and bound as directed above, are better still. N. OF WORTHINGTON.

Berlin, Ct., Feb. 16, 1843.

ON THE MANAGEMENT OF DAIRY COWS AND CHEESE DAIRIES.

BY ALONZO L. FISH OF HERKIMER CO., N. Y.

(Continued from page 115.)

Bulls—Management of Pasture and Meadow Lands—Proper Time for Cutting Hay—Culture of Manure Wurzel—Use of Plaster Indian Corn sown Broadcast for Fodder—Feeding Dairy Slops to Cows instead of Swine—Best method of Feeding Swine—Barn for Dairy Cows.

BULLS of a small size are the best for dairy cows, for gestation of such a size will produce a lighter draft upon the system of the dam, than those of a larger breed.

The dairyman should not plow much with an object to obtain a great profit, farther than may be necessary to keep his land well stocked with grass; for if the cream of the soil is used to produce grain, we shall be sure to not raise it upon the milk, for there are but few soils among us so full of cream as to raise it abundantly upon grain and milk too.

It is a practice too common among farmers when about to turn over a sward, to graze it as close as possible before plowing, as a matter of economy. This is like loaning money at 14 per cent, and taking the interest in advance to evade the civil law. But nature's laws cannot be thus evaded. Nature has set the farmer a noble example, by annually depositing her foliage upon the earth, by which the rising generation of vegetables are nourished and sustained by the elementary principles of their decayed predecessors. She is ever ready to assist in the execution of her organic laws. It therefore behoves the farmer in view of her example, whenever a piece of ground is to be tilled for its improvement, to mix as much vegetable matter with the soil as possible, to make it a better vehicle for the food of vegetables. The dairyman who has practiced feeding his meadow in the fall, and thus stripping the soil and roots of their natural clothing, will frequently find it incumbent upon him to till them to increase their productiveness. It now becomes necessary for him to refund the principal to the soil, which he has annually taken, in addition to a reasonable interest. He who would draw an annual interest from the soil as his profit, should not draw largely upon the principal from which said interest accrues.

Meadows "run out," (as the saying is,) by over grazing, and by the soil becoming so packed as to exclude the requisite atmospheric air to produce germination at a depth where it would not perish from the effect of frost, drouth, cold winds, &c.; hence the reason that June grass, strawberry vines, &c., are most abundant, because they are hardier than other grasses, and can be sustained by a shallower root and weaker soil.

As many acres of such land should be tilled annually

as will use up the manure of the yards, by putting the manure of 6 or 8 cows to the acre, in the following manner, viz:—The soil should be plowed deep and thoroughly in the fall, and as much vegetable matter as possible turned under with the soil, to decay and mix with the soil. This should be thoroughly harrowed early in the ensuing spring, but not plowed again until near the season to plant. It should then be plowed deep and thorough, and well pulverized.

Potatoes are the best crop to improve such soil, as the process of their culture pulverizes the sod and exposes the soil generally to the action of the atmospheric air. After the potatoes are harvested, it will be well to plow the land and expose it more thoroughly to the effect of the air and frost. Early in the ensuing spring, the same ground should be manured, harrowed and plowed several times, when it is suitably dry; which will prepare it to receive a stock of grass.

It is the first object with most farmers, to put on a crop that will produce the greatest profit the present season, and stock their ground to grass with the same. But this is not the right way to prepare the soil for successive drafts of interest. Such a crop should be put on to stock grass with, as will admit of being sown early, that the young grass roots may have an opportunity to get a deep firm hold in the soil before the grain and weeds get the start of them, and the soil becomes so packed as to prevent their penetration. Those grains which produce the least shade are most desirable, that the young grass may not be overshaded. Spring wheat, rye and barley, do well to stock with, as they may be sown so early that their speedy growth will not interfere with that of the grass.

It is better to over stock with grass seed than to fall short of a proper quantity; as nature will easily dispose of the surplus, but cannot properly supply a deficiency. I have usually sown twelve quarts of timothy seed to the acre, when sown clear, and the quantity reduced in proportion to the quantity of other kinds of grass seed added. It is well to mix several kinds of grass seed, to stock with, as the soil will yield a greater bulk of a variety of grasses than of a single kind.

Having been thus prepared, the soil will become deeply and thoroughly interfused with the roots of the young grass, which will prevent its packing, and contribute to its annual support by their transmutation. This is one of the most vital principles in the soil, and the least observed by the majority of our farmers, (if they may be judged by their practice.) In short, if the young meadow is well set, and left to receive the benefit of its natural clothing, the roots will acquire an extensive growth, and their annual transmutation will increase and preserve the vitality of the soil for many years, if not during the continuance of the practice.

But if the meadow is poorly set, and its clothing grazed off, the roots will degenerate, the soil will become closely packed, its vitality will diminish, and at length produce little or no profit.

I am opposed to rolling meadows: for a farmer thus goes through a course of treatment with a piece of land, with a view of benefitting it by the aid of nature's organic laws, and protracts his efforts beyond the accomplishment of the object, by packing it down again with a heavy roller to sealude her benefit.

Hay should be cut up and cured for cows when in its fullest bloom, as it is then most nutritious. Some object to cutting at this period, because more sun is required to cure it properly; and that it does not spend as well as when cut later. Hay may be put into tight barns much greener than is usually practiced, if well salted when put in: which should always be done for the improvement of the hay and stock. It is much better for cows to eat salt in their every day's food in proper proportion, than in large quantities, as is apt to be the case when they are only occasionally fed; six or eight quarts to the ton, may be profitably used. When grass stands until it becomes more ripe before it is cut, it assumes too much the nature of grain for milch cows. It may "spend farther," (as the saying is,) because it is harder to digest, and cows will not eat so large a quantity of it as when cut in full bloom. I have often observed that my cows would eat *more weight* of good hay, than straw; but was not convinced that the straw was of equal value, although it "spent further."

It is the practice of botanists to procure their plants for medical purposes, when in their most vigorous growth, and great care is taken to cut and cure our garden herbs when in bloom, for the same reason that grass should be cut for hay at that time.

There is a certain period in the growth of plants at which the ingredients that form the main bulk of vegetable matter, lose their equilibrium of chemical attractions, and take the first step towards a decomposition of their elementary parts; and it is evident that this takes place soon after the bloom of the plant closes the process of generation, and may be readily discovered in meadows by the perishing of the lower leaves of the grass, and a general change in its color, and it should not be allowed to stand and take another step towards their final dissolution.

The *mangel wurzel* is the most profitable root for the dairyman to raise upon highly manured ground, as they are a hardy root, and not subject to injury from worms, nor easily overpowered by weeds. They are very congenial food for cows while feeding hay, and there is no danger of over feeding with them. But they will not yield largely as a field crop, as our common soils are not sufficiently rich to produce them in abundance. There is no soil too rich to grow them successfully, if properly

tended. If a piece of ground is designed for their growth, which has been hard trodden, it should be plowed deep and fine, late in the fall previous to sowing, that the frost may dissolve the hard lumps. Ground that is plowed while covered with water, will not bake in a late fall sun, and the action of the frost will render it light and fine before warm weather in spring.

Ground designed for this crop should be highly manured, and well pulverized and mixed, when suitably dry; and it is well to work it over immediately before planting the seed, to keep the weeds in check. From the 15th of May to the 1st of June, is the proper time for planting. The ground may be readily prepared by setting a half dozen cultivator teeth in a pole or scantling, 15 inches apart; a couple of poles will answer for thills, and you are prepared with a machine that will furrow with one horse, an acre both ways in two hours—dividing it into squares of 15 inches, which is a proper distance for them to stand.

The seed should be well tried, to be sure it will grow. Sealding water should be poured to the seed 12 hours previous to planting, which will forward their germination and give them a fair start of the weeds. Not less than two seeds should be deposited at the corner of each check, and covered two inches with fine earth. The ground should be hoed before the weeds get deeply rooted, as they will then be more easily subdued. The hoe should be frequently used, and only one plant allowed to stand in each corner, and the blank filled by transplanting, which may be done at any time before the plant gets too large. When the soil is very rich and the season wet, they will run too much to top, and require too much serum for the health of the plant.

The root being deeply shaded, and kept from the influence of the sun, is not capable of performing its part in digesting the inhalations. The root of this plant feeds largely upon the vital properties of the soil; while the lungs or leaves are provided also with extraordinary capillary properties by which they collect food largely from the atmosphere. The want of a proper equilibrium between them may be observed by the lower leaves becoming of a paler color than the rest, and should be taken off and fed to the milch cows, as they are very nutritious. From 5 to 10 tons may be obtained from an acre (in vigorous growth,) in the course of the season, if properly tended, without injury to the root. Light frosts do not injure this root, but they should be gathered before they freeze hard, by pulling them and beating off the dirt that may stick to them, and put into large heaps or ridges; after wringing off the tops with the hands, and secured from the frost by covering them with straw or tops. When there is no danger of freezing, they should be exposed to the cool drying air, to prepare them for the cellar. They should not be kept too warm during the winter.

Plaster should be sown early upon pastures, that the root may receive its earliest benefit in its germination; it is then it needs an artificial stimulant if ever. I have practiced for several years sowing one bushel of plaster to the acre on my pastures, in the month of April, on the last small snows we have in that month, and find it a very convenient time, as it can then be sown more uniform; I am convinced that plaster sown at this time is more beneficial also, than when sown at a later period. I have generally repeated the same quantity about the 1st July, and am seldom destitute of plenty of nutritious food for the cows, after they commence their milk in spring, until the close of the milking season.

I again repeat the remark, that it is highly necessary, after cows have come freely to their milk, the fluent state of the system should be kept up by being regularly fed with nutritious food.

If they are allowed to shrink largely in their milk, (especially in the latter part of the season,) and then an attempt is made to increase the milk by extra feed, it is apt to be taken to flesh. It generally happens in the months of August and September, that pastures get rather dry and infected by grasshoppers, and cows are troubled severely with flies, heat, &c. in the day time. During this season they should be fed plentifully in the morning with succulent food.

I would therefore suggest sowing Indian corn, broadcast, for this purpose, at the rate of two and a half bushels to the acre; a small kind of corn is preferable, as the stalk will not grow large. This crop should be sown at different periods, and allowed 80 or 90 days to grow; at which age it will be found to contain the most saccharine matter, and will make the most milk. It is not only sweeter when grown in this way, but yields much more of the saccharine juice than when planted in the usual way and allowed to grow the natural fruit, and will grow much taller. Upon ground that is strong and clean, it will grow from five to nine feet high in 80 days. This should be cut with a scythe or sickle, and fed in a green state. If early frosts should overtake the crop before it is consumed, it should be cut before freezing and put into large shocks, being set upon the butts. It will keep in this condition for several weeks, until it can be fed out profitably. It is also an excellent feed for winter, when well cured, for milch cows, calves or dairy cows, late in the fall or in the spring. I have tried an experiment with this crop the present season, and the result is even beyond my anticipations. I commenced feeding it to my cows about the 10th of September, after feeding them plentifully for several weeks with mangel wurzel tops, which had kept up their fluency to my full satisfaction. On the third feeding, I found the milk had increased two quarts to each cow, with an uncommon sweet flavor, making the best curd I have ever seen, ad-

ding one-half as many lbs. of cheese as I have cows in my herd. The cheese appears to retain a peculiarly delicious flavor, hence I am firm in the belief that dairy men will find it beneficial for them to raise more or less of this crop annually, to protract the fluency of the milk. New ground is very congenial to its growth. From 10 to 15 tons may be raised to the acre, and this quantity may still be increased by extra preparation of the ground.

I have been experimenting for several years, to ascertain, if possible, how the greatest profit may be derived from the slops of a dairy, by the various modes of making beef and pork from them, and by feeding them to my dairy cows, to make milk; and have come to the conclusion that feeding them to cows is the most profitable. 1st. Because whey is strongly impregnated with the real properties of the stomach, which it retains after the coagulating process is finished, and which operates as a strong chemical agent to assist the gastric juices in converting the various substances that are taken into the stomach into a uniform mass, called chyme. After having thus performed its first important agency, it may be traced still further to its agency in producing an abundance of chyle or milk; as it still retains many of its original properties, and is more readily absorbed by the secretory glands than a raw material. 2d. Because I have satisfied myself by actual demonstration, that our house slops and other coarse feed, such as is generally fed to swine, will make as many pounds of cheese as pork, if properly managed; and one-third more beef than pork, when fed to neat stock at any age.

If swine are fed chiefly upon dairy slops, they should be closely confined; with an opportunity to sleep on dry earth if they choose, in the heat of the season, as they will require less solid food to keep them thriving. Swine thus fed, should be fattened before the weather gets very cold in the fall; as it requires less labor then to prepare food, and keep it at a proper temperature to feed. I have made the most pork, and the quickest, from the same value of feed, in the following manner, viz:—Fill a kettle half full with potatoes, fill up the kettle with sour apples and sufficient clean water to boil them soft, without burning; while hot, mash them fine together, and add, in the process of mashing, one-eighth the whole quantity of provender meal, (be sure to mash fine,) to this add whey or other slop enough to reduce it to thin slop. This should be fed at a temperature equal to that of the stomach, which is usually about 95 degrees Fahrenheit, in any quantity the animal will eat. A great assistance may be thus rendered to the digestive organs of fattening animals, especially the swine, which is apt to get inert, and will not rise until compelled to perform the offices of nature, or rid itself of pain occasioned by stupor or disease. This is generally the case with swine fattened with solid grain feed. As soon as the appetite is satisfied by eating the solid meal, it lies down to dose, until the undigested food creates an unnatural heat or fever, which tends to inflame and contract the absorbing glands of the stomach and intestines, until the animal will take but a small quantity of food and consequently thrive slow.

But when swine are kept upon food prepared as above, they will receive the food into the stomach almost in a state of chyme; of a proper consistency that they will not thirst, to contract the secretory organs. The food is a proper acid to create an appetite to eat often, and will not scour or cloy; will keep the stomach always full, and receive it at a proper heat to meet the natural warmth of the stomach, and the secretions of fluid will be continually carried on without closing a single valve or stopping the wheel to fill a bucket.

Directions for feeding whey. Dairy slops cannot be conveniently fed to cows without some fixture to confine them to troughs or tubs. A regular milking barn is therefore the best preparation that can be made for this purpose, as it adds much to the facility of milking and feeding with hay, roots and other articles. My milking barn, which I think affords the best facilities of any floor I have seen, is constructed in the following manner, viz: The barn is 50 by 30 feet, with 14 feet posts, 5 bents, cross beams and joists 6½ feet from the first floor or sills, which provides room for 25 tons of hay over head, with a half tunnel or conductor, passing from the ridge in the center perpendicular through the mow; through which the hay is conducted to the center of the hall between the stanchions, when it is ready to be consumed by the cows. It has three doors on each side to admit the cows, and a free circulation of air in summer, with an 8 feet door at each end opening into the hall, which is 8 feet wide between the stanchions, affording also a free circulation of air, and sufficient room to feed and carry milk conveniently; with strong plank floors, on a descent of 4 inches in 12 feet, which is a sufficient pitch to carry off the urine. The lower end of the plank is propped back 2 inches from the sill, to give the urine free passage; under which space a trough is suspended to conduct the wash of the stables into a large vat adjacent to the root yard, for the purpose of making compost of coarse weeds, &c. The wash from the stable of 20 cows, thus saved, together with the dairy slops from the cheese-making room, which may be conducted into the same reservoir, will make manure enough annually to raise 500 bushels of roots from a half acre of ground, if properly managed, with little additional expense. A wide plank is fitted closely to the back sill, and raised from the floor even with the top of the sill, thus admitting the wash to pass under, while it forms a platform wide enough to allow each cow's calf to be tied to a staple or ring behind them, and stand upon a dry floor. The urine, &c. from the calf, will pass off in the same channel into the common reservoir, and the cows in going into the stable will

choose the stanchion directly opposite their own calf, which will habituate them to occupy the same place through the season. This may be considered by some as *small change*, but I know of no better way to make large profits with *small prices*, than to save the whole, and improve the facilities for producing the same amount. My barn being 30 feet wide, gives me 8 feet between the stanchions, and a floor each side of them 11 feet wide, which leaves plenty of room to pass and repass behind the cows, and to clean after them. My stanchions are constructed to confine and relieve the whole number of cows in a stable with one motion, by a shaft being attached to the top of the stationary standard which passes through the top piece or plate 8 or 10 inches, and attached to each latch; and a shaft extending the whole length of the plate, running parallel with and attached to the movable stanchion or slide, which will raise every latch at once, by bearing upon a lever at one end of the stable, and confine every cow at once by operating the lower shaft in like manner. They may with the same fixture be relieved or confined separately, without interfering with the general arrangement. The stanchions are set 4 feet apart, including 7 inches space for the neck, which affords room to pass into the hall between each cow and plenty of room to milk them. A light half inch board with hinges fills the space between the stanchions, which standing aslant, will keep shut without latch or button, and make cheap convenient doors between the hall and stable. When it is intended to feed whey to cows, it should be commenced while feeding hay, before they get a taste of grass, for if they are not accustomed to it, a difficulty will be found in making them drink it.

The whey should always be soured before it is fed, which seems to lessen the cathartic qualities, and not so apt to cloy the new beginners. A few quarts only should be fed at first, with a little provender or bran, until the stomach is accustomed to it. The quantity may then be increased at discretion, care always being taken to feed a regular quantity, and not so much as to scour or cloy.

If it should have a tendency to scour, (which is often the case with cows before they become accustomed to it,) they should be fed wheat bran sufficient to prevent it; this should be prevented in the same way at all times, when occasioned by any other treatment. Each cow should have 4 quarts of provender per day, with whey, until the grass gets its full heart, which will carry the system into the heart of the season in full vigor and fluency.

(To be continued.)

CANADA THISTLES—ABORTION IN COWS.

MESSESS. GAYLORD & TUCKER—Our friend, Dr. THOMSON of Wilmington, Del., has given you, in the last number of the Cultivator, an account of two evils that have invaded our neighborhood, which seem to call for the serious consideration of your readers in every part of the country. Unfortunately, I have suffered in the same way, and would therefore record my experience for public benefit.

Some years since, a neglected farm came into my hands, where was an orchard of 14 acres, of which the Canada thistle had taken possession. As my wish was to go to the root of the evil, I determined to cut every thistle below the ground, just as they had attained the height of about fifteen inches, and apply a teaspoonful of salt to the bleeding root; conceiving, if the remedy had been sooner applied, some of the distant fibres might have escaped and set up for themselves. They were now in full vigor, and bled profusely; so the salt being taken into circulation, the result was total extirpation, root and branch. True, it was a laborious business, and the neighbors thought it would "never pay;" but it did, most amply, for not a thistle has since made its appearance, nor was the herbage at all injured by the application; nay, I have no doubt it was benefitted ultimately. Dr. Thomson has a small patch of these pests in a low meadow, the grass of which is peculiarly vigorous; I was grieved, the last time I passed, to see that he had dug a trench around the spot, about two feet wide and deep, throwing the earth on the sides, so as to isolate the circle, and was told he intended to cut the grass, and then cover the spot with salt so thickly as to destroy every vestige of vegetation. Now here again my experience has taught me: I once owned a small field of Lucerne, and finding that the natural grasses of the soil had begun to usurp the land, I made several experiments to ascertain the quantity of salt necessary for the destruction of the grasses, without injuring the deeply rooted Lucerne; this I found, but after the finer grasses had been annihilated, the land became filled with those of a coarse and deeply rooted species, which totally ruined my Lucerne patch. And will not this be the result on the Doctor's fine meadow? The bank of earth thrown up will be covered with weeds of gigantic growth, the present season; and long after it has been returned to the trench from whence it had been dug, will it require the greatest care and labor for their eradication; while, or I am much mistaken, the finer herbage within the circle will be totally destroyed by the salt, and its place, filled with the coarser grasses, will remain an unsightly gall for years. Now all this might have been avoided, and the destruction of the thistles accomplished, by a boy with a sharp knife and a box of salt, in the space of an hour, if taken at the proper season, and the herbage eventually benefitted by the operation; but so true it is, a man can manage the business of his neighbor better than his own, and one would almost

suspect that it is in this light the injunction of holy writ is to be understood, when we are told, "Let every one look upon the things of his neighbor."

Dr. Thomson has suffered greatly from abortion amongst his dairy cows. It is fortunate that he did not go deeply into the improved breeds, else the loss would have been grievous. He considers it safer to change entirely his stock of milch cattle, many of which are excellent; but is he sure this will remedy the evil? It is perfectly right to advise the removal of the fetus, &c. with the cow herself from amongst the herd; but abortion is the effect of a cause that must have its origin elsewhere. What does the Doctor think of the conjecture that it arises from the nature of the pasture and the surrounding atmosphere?—a damp, low, rich soil engendering, so it is confidently asserted, the growth of *ergot* on the luxuriant herbage, and producing a state of malaria which is believed to be the fruitful source of disease and abortion, amongst cattle as well as the human species. These situations are generally destitute of fresh and living springs of water; the drink of the animals must therefore be contaminated with putrid vegetable matter, and be rendered peculiarly unwholesome.*

The observation that the cows were in good condition and had wintered well, and that no ill conditioned health in the animals had been detected, is no argument against this hypothesis; for I would ask, whether the evil is not generally experienced in such situations and under similar circumstances? And can any of your readers give us instances of the prevalence of the disease on upland districts, where the herbage is short, dry and sweet, the air dry and healthy, and the water pure and ever-flowing? For myself, I have observed that the evil has been alarmingly prevalent amongst dairies where the cattle have been in high condition, upon rich and rank pasture; and I would venture to ask the Doctor—than whom I know of no one more competent to answer the question—whether, in his professional capacity, he does not much oftener meet with cases of abortion among his rich and luxuriously living patients, than among those who are accustomed to be abroad in wholesome air, and constrained to take exercise, with perhaps spare diet—the evil arising from a too soft and relaxed habit of body? But now to the remedy.

You must know, Messrs. Editors, I am such an advocate for the use of salt, even to profusion, that, to be consistent, I believe I may say I take myself about a pound a week. We know that sheep may be fed with impunity on soils confessedly unsound, if allowed salt in their troughs, and are removed to higher lands for the night; and I have no doubt the evil of abortion might be prevented by such a course of treatment. It is contemptible to hear some of our agricultural friends recommend salting their stock once a week! Were I thus to be restricted, I have an idea I should be dead in about that time. Parker, in his Treatise on Salt, says: "A person who kept sixteen farm horses, made the following experiment with seven of them, which had been accustomed to take salt with their food. Lumps of rock salt were placed in their mangers, and these lumps, previously weighed, were examined weekly, to ascertain what quantity had been consumed; and it was repeatedly found that whenever these horses were fed on old hay and grain, they consumed only from 2½ to 3 ounces per day; but when they were fed with new hay, they took 5 ounces per day!" Now cannot we apply the reasoning of these animals to the case in point, and by allowing them as much salt as they require—they being the best judges of how much that ought to be—reduce the catalogue of diseases about one-half; and amongst these, *abortion and the Canada thistle?*

P. S. It is refreshing to see in the pages of the Cultivator, which is in such repute amongst us, an article from this part of the country. Many of my neighbors consider that the publication of a work so far north, is out of their latitude: could it not be contrived to bring us nearer together, by the establishment of an office about midway, for receiving communications and transacting the business of a publication confessedly at the head of the agricultural periodical press of the Union? *Newcastle co., Del., 17th July, 1843.* D.

* A dairyman writes: "When I came to the farm which I now hold, I found the stables built under large trees, with a northern aspect. My horses were soon in poor condition, with long and rough coats, and almost always lax in their bowels; nor could I get them up with extra feed or lighter work. But my cows suffered most, for they were always sick; their milk fell off, their butter was poor, and of a bad color and flavor, and four of them slipped their calves before their time. On inquiry, I found that the person who had left this farm had always been unfortunate in his horses and cattle, and from that cause, had not been able to make both ends meet. The truth flashed upon me in an instant, and in very little time longer than it has taken me to tell my story, I had commenced pulling down my stables, the unhealthiness of which had been, I was now convinced, the cause of all the evil and all the loss. I erected others on higher ground, removed from standing water and the shade of trees, with a southeast aspect, and dry, capacious yard, and I have had neither sickness or sorrow in my outdoor household from that day to this. My horses live on less food, and are in good condition, and my cows are a credit to their keep. Our butter brings two cents per lb. more in the market, and no more premature calves. Instead of watering my cattle, as heretofore, at the pond under the trees—the water cold, with a deadly taste and bad colour—I sunk a well and put in a pump; and at a long trough, under shelter, they slake their thirst, without setting up their coats and shaking all over, as they used to do, even in warm weather, after drinking at the hole under the trees; and to this water, and the bad aspect of the stables, I attribute all the sickness and misery which I once experienced amongst my cattle and horses."

THE WHEAT CROP OF WESTERN NEW-YORK.

MESSESS. EDITORS—In the summer of 1842, there was about the same quantity of ground prepared for wheat as there was the previous year. On the 1st of September, many had their fallows ready for seed, and the fine weather induced them to commence seeding the first week of the month. The second week and part of the third were so wet that there was but a small part of the wheat sown till the third and fourth weeks, and then it was unfavorable for seeding; so much so, that in many instances the ground was too wet and heavy for the seed to vegetate. Under these unfavorable circumstances for a crop, cold weather came on earlier than usual, with more snow and more severe cold than had been experienced for many years.

The early sown has been injured by the fly, (*Hessian*) and choked by the *Shepherd's sprout*, or *purse*, so much that it is very light. That sown after the rains, was very much thinned for want of root to withstand the hard winter, and in many instances there cannot be half a crop, if the weather should prove favorable. The harvest will be several days later than usual, and it is feared that the rust will affect it; indeed, if all should favor us, we cannot realize much over half a yield. Wheat will be more impure this year than usual; cockle and chess vegetated well last fall, and the thinness of the wheat gave them the advantage. Smut is more common with those who neglected to brine and lime their seed, owing to the unfavorable condition of the ground, it being wet, and sowing impure seed.

The prices of the coming crop, by all that I can learn from the different wheat growing districts in the several states, must rise from the last year's rates; so that the wheat growers of western New-York may get from one dollar to one dollar and twenty-five cents per bushel, if the harvest should come in as well as may be expected from the present prospect; and if the rust should affect it, the price must rise in proportion.

As for the prospect of my experiment field of wheat, my improved Flint surpasses all the other kinds. The *Bellevue Talavara* (English) has been the most injured by the winter; the *Wheatland Red*, *White Provence*, (French) *Virginia May*, *Kentucky White Beard*, *Mediterranean*, and *Soules wheat*, all have stood the winter very well, compared with the other kinds raised in this vicinity.

The *Virginia May*, *Mediterranean* and *Wheatland Red* are ripening about alike, and will be ready for harvest six or eight days before the other varieties. They will not come up in yield to the improved Flint. The long, stiff beard and thick bran of the *Mediterranean*, are strong objections to its culture on our fine wheat land. Its early maturity will make it valuable on lands that are late in ripening and subject to rust. My improved Flint is the only kind I shall offer for seed this year, and that at twenty-five cents per bushel above the millers' price. It is very difficult to keep the several kinds in my experiment field pure, and in such quantities as to offer them for seed; but I can supply small samples to those from a distance that should require it. Yours, respectfully, R. HARMON, Jr.

Wheatland, N. Y., July 11, 1843.

RAISING TURKIES.

MESSESS. GAYLORD & TUCKER—I am this year experimenting in raising turkies; or rather I am practicing on a larger scale, in accordance with experiments of former years. If successful this year, I shall feel at liberty to question much that has been said, and some that has been written upon this subject. My method is no secret, yet I prefer to get a little farther "out of the woods," before I say much about it. I have thought, and still think, that one hundred turkies can be raised at much less expense than the same value can be obtained from any other animal on a farm. Writers upon this subject have said much that does not accord with my experience. It has been said (by a correspondent of the Cultivator, I think,) that "young turkies will not follow the hen, do not notice her call," &c., and such reasons are confidently set forth as the cause of a failure in raising some young turkies which had been hatched out by a hen. And perhaps some have been deterred from setting turkies' eggs under hens by such communications. But this is all wrong. Turkies not only can be raised by a hen, but in ordinary cases, if we would have them early, they must be so raised. If I should "obtain eggs from the wild turkey," I certainly should set them under the hen, as the only sure way of domesticating the young ones; and I should expect they would notice the cluck and the call of the hen as readily as they would the notes of an old turkey. I could state facts to demonstrate this. I can exhibit living witnesses to put this question at rest. But the details would not probably interest the majority of your readers; and yet the details are all that is of much value to one who wishes to try the experiment of setting turkies' eggs under hens. Let me add then in conclusion, that my first eggs this spring were thus disposed of, and they did well. Not one of them thus hatched, has died, and some of them are full feathered, and roost upon the fences. They understand the call of the hen too. As an experiment, I took a hen which had just hatched out ten young turkies, and shut her up, and put the young ones to a coop with an old turkey, which I had just taken off with twenty-one young ones. They remained together twenty-four hours, of course over one night. The hen was then let out, and immediately on her going to the coop, ten of the thirty-one left and followed the hen and

continued with her. I do not know that the ten which left the turkey for the call of the hen, were the same taken from her nest, for they were too near like those hatched out by the turkey, for me to detect them. I could state many other experiments, all going to prove that young turkeys can be raised by a hen as successfully as with the turkey. But no more upon this subject before thanksgiving.

R. L.
Hartford, Ct., June 20, 1843.

LETTER TO SOLON ROBINSON,

Of Lake C. H., Indiana, in reply to his of March 24th, 1843, by his friend RICHMOND, of Oakland Farm, Richmond co., and State of New-York, on the difference of farming in the Eastern and Western parts of the United States.

Dear Sir—The Cultivator for the month of May, 1843, has been received, and your letter (page 81,) has been read with gratification and pleasure. It is to me entirely satisfactory, and answers the queries suggested by my neighbor, as published in the March number of the Albany periodical, where we meet and commune. I take also, as part of your reply, an article in the February number, which I saw after despatching to the editors my communication to you: likewise the information you refer to in the American Agriculturist.

In reply to your friendly answer to my first letter, I will commence by noticing the last paragraph, wherein you complain of me as an anonymous correspondent. I must confess that when writing, I was somewhat apprehensive that you might take it amiss, and not reply; and I accordingly sent my communication to the editors of the Cultivator, with the remark that it was out of no disrespect to them or you, that I did not subscribe my name, and that I wished to be useful without being conspicuous. The information which I desired to elicit, I knew you could furnish; and if given, would be agreeable to me, and satisfactory to many. You have answered, and I thank you for it, in behalf of myself and other readers of the Cultivator.

When you was making your agricultural tour, I eagerly read your remarks as they appeared in print, and I watched the progress of your journey with the intention, had you come within hailing distance, to have seized you by the hand, and drawn you *here* to the sea shore, where the mighty deep sometimes gently laves our shores, and sometimes in its terrible and majestic fury washes away some of our best lands; *here*, where you would have seen how farmers have to toil to keep their cultivated fields in good heart, by buying or making manure, without which, and plenty of it, our crops will not pay for the expenditures upon them. Hence it is that we manure at the rate of seventeen dollars or more per acre, though your prairie cultivators can hardly believe it, but it is nevertheless true; and the fact has caused me to turn my attention to the subject of making manures, of which I shall give you some account.

Now if ever you come within a reasonable distance of this remote corner of the State of New-York, seek out your friend RICHMOND, and you shall have a hearty welcome: and if he travel westward, he will take the liberty of calling to make himself personally known to Solon Robinson. This latter is by no means improbable, as he has a son residing west of you, in Wisconsin, which may lead him, though advancing in years, to travel that way.

Methinks I hear you say, and why does my correspondent still keep himself incognito? I answer, because I am past the meridian of life, and am not ambitious of honors or fame. But it is due to you to know something more about your correspondent than his assumed name. I will tell you, then, that I am a farmer of only four years' practice, and any hints or suggestions would not be heeded by old practical agriculturists, if known as coming from a new and a book farmer. Now in a short time, I have made great improvements on my farm, and I raise better crops than some of my neighbors, although they won't believe it, but doubt, though they see it with their own eyes. I was born and brought up in New-York to professional business, where I remained until declining health compelled me to seek a change in the country, which has had a salutary effect. And here, while I live, I wish to make myself useful as far forth as my situation will allow. In the 8th vol. of the Cultivator, p. 65, you will find a communication to the editors, with the real signature of your correspondent: also in the Transactions of the New-York State Agricultural Society for 1842, p. 188, where he is a neighbor to Solon Robinson's communication on the Prairie Culture of Indiana, (p. 221.)

Now I find, by comparing notes, that you western agriculturists raise crops, and large ones, with little labor, and no manure; while we, in this region and farther east, can raise nothing without much labor and high manuring, sometimes even at an expense equal to the value of the land, and often more than the value of the first crop succeeding such application of manure. With us, then, manure is the life of agriculture. Crops well manured will resist the frosts of winter and the drouth of summer better than those poorly manured or without manure. For this purpose, then, we must either buy it or make it. If we buy all that the land requires, the price of our crops will not justify the expense. If we make it ourselves, it requires time, attention and labor, as well as materials and stock. Few are so situated as to be able to make all they want. Hence most of the farmers in this part of the State both buy and make; and some compost their barn yard materials with street

dirt and horse manure, which they buy in the city of New-York, and transport by water.

By reference to my manure account, the expenditure stands thus:

Manure and materials for		
manure bought in N. Y., 1839, cost	\$207 00	
" " " " 1840, "	291 35	
" " " " 1841, "	250 07	
" " " " 1842, "	331 04	
Manure made on farm, 1839, 150 ox cart loads, valued	75 00	
" " " " 1840, 300 "	150 00	
" " " " 1841, 612 "	306 00	
" " " " 1842, 737 "	368 80	
	\$1,978 96	

Here we have manure bought and made of the value of nineteen hundred and seventy-eight dollars and ninety-six cents, distributed on a farm of one hundred and thirty acres (thirty of which is woodland) in four years, or an average of four hundred and ninety-four dollars and seventy-four cents per annum. To enable me to make the number of loads of manure above stated, sea weed, among other things, has been liberally used. The first year of my residence in this place, (1839,) I was not aware of its importance, and therefore neglected to secure it, as it washed upon my shore.

In 1839, there were collected 43 ox cart loads of sea weed.

1840, " 94 "	" "
1841, " 167 "	" "
1842, " 173 "	" "

This sea weed was employed to litter the barn yards and hog pens. The hogs were kept up the year round, and the pens occasionally cleaned out, and the contents spread over the barn yard, and thus mingled with the droppings of the cattle and the stable manure, which was also spread over the yard as it accumulated. The manure is part of the profit of keeping hogs, and will pay for their keeping. The waste hay, straw, and refuse of the cornstalk fodder which accumulate during the winter in the barn yard, mingling with excrementitious matters, make a mass of animal and vegetable material capable of forming a compost of the best manure. My yards are hollowed to save the liquid part of the manure, and my two barns have gutters to carry off the water, and to prevent the yards becoming too wet. In winter and in stormy weather, my cattle are tied to the racks under cover, and to prevent the stronger from driving the others from their food and into the weather. In the day time, they have the range of the yards, and when the manure accumulates at their stands, it is spread over the surface. Thus, with the use of sea weed, hay, straw, cornstalks and swamp muck, I was enabled in 1842 to make seven hundred and thirty-seven (737) loads of manure, all of which was used to improve and fertilize my lands, in addition to street dirt and fertilizing materials bought, to the amount of \$331 04. These materials were lime, plaster, soda-ash, potash, crude East India saltpetre, (or nitrate of soda,) ground glass, (or silicate of potash,) and poudrette.

Now with these facts before you, could your prairie cultivators think it wonderful that we manure at the rate of seventeen or more dollars per acre? I think not. With the same system of management, I shall be enabled this year (1843,) to make more manure than the last, as a way has been cleared to a swamp where I have muck in reserve for use, when the summer heat shall have dried it sufficiently to be entered with a team. The animals which enabled me to make the above amount of manure, were two horses, eighteen hogs, and twenty head of cattle, large and small.

I was about to give you some account of my use of potash, soda, saltpetre, &c., but the details will make my communication too long and tedious. I will therefore only give you at present some of the results of my manuring.

On one lot of ten acres, marked No. 1 West, on a map of my farm which was made by a surveyor, there was grown in 1839 a good crop of corn; in 1840, a fair crop of oats, after which it was well manured, plowed, harrowed and sown with wheat, and seeded with clover and timothy. In 1841, after the wheat was taken off, the grass came forward so strong, that twenty-two loads of hay were cut and secured from the same lot in September. My neighbors said I would impoverish my land by such cropping. The soil being clay, I gave it a top dressing of sand, and lime and potash. In 1842, two crops of hay were cut from the same field, making together fifty-eight loads, nearly equal to three tons per acre. When the aftermath was gathered, four calves had the run of the field, and in October and November, it received a top dressing of soda-ash, partly distributed or sown by hand, and partly mixed with lime and sand, and scattered from the cart with the shovel. And now (the beginning of June, 1843,) the field promises a double crop of hay and grain.

But this, you may say, is only one field, and a partial statement. It is true, I have had some poor crops, where the land has not been so well manured as the above mentioned field. Let us take hay, then, the staple crop of Staten Island, and see what the manure has done:

In 1839, I cut 85 loads of hay	
1840, " 44 "	
1841, " 120 "	
1842, " 233 "	

The least quantity was cut in 1840, because, as the grass was running out and the weeds predominating, several of the fields had been plowed to go through a rotation of crops, and again to be brought into grass.

Again: let us see the result of manuring in the total amount of crops, on a farm which cost \$12,000:

In 1839, produce of my farm was valued at	\$1,556 50
1840, " " "	1,984 15
1841, " " "	2,522 10
1842, " " "	2,576 73

Here you have a statement of increased crops, by an ample quantity of manure, and they ought to have amounted in 1842 to three thousand dollars; but this was prevented by the exceedingly low price of every article of agricultural produce.

Among other means to add fertility to my lands, I save all my wood ashes, burn up all the rubbish about my premises, and the brush about the wood pile, and while burning, throw into the fire bones, clam shells and oyster shells, which are converted into lime and mingled with the ashes, and these ashes are mixed with my compost heaps.

And now if any of your western husbandmen doubt what I stated in my former letter, you here have facts to prove the assertion, both as to labor and manure. We have to be industrious to keep pace with the times. You and I agree in many things, but we differ in this respect: you "plead guilty to a love of indolence." I love to see people work, and work myself, as far as my health and strength will permit. Now on this account, I should make a bad western farmer, as I should be uneasy as a fish out of water while the prairie crops were growing without my looking after them. I should want to be plowing, or hoeing, or making manure, or seeing these things done.

I find myself running into the garrulity of old age, and making my letter too long, and must stop. But a word or two of my neighbor: I read your letter to him, and he joined me in a hearty laugh at its contents, particularly where you balanced the account of the seven acre crop of corn, and where you commented on "seventeen dollars an acre for manuring." Your letter put him in a very good humor, but still he is undecided whether he will take the Cultivator. Accept assurances of respect and esteem from your fellow laborer in the field of agriculture,

Staten Island, June 5th, 1843

RICHMOND.

MANURES—INDIAN CORN.

MESSRS. GAYLORD & TUCKER—We have in this section of country, a set of men who pretend to call themselves farmers, with about the same justice as the boot black who styles himself "a leather dresser by profession." Men who let cattle and hogs run in the roads all summer long, and in the winter turn them into the cornfields to browse upon the stalks which are left standing till spring, and then what the cattle have left is raked together and burned. I do not mean to say that there are no exceptions to this class, for we certainly have some good farmers among us, but there are yet far too many of the above breed, and they are very hard to root out. And yet these men are not insensible to the value of manure, for many of them spend large sums annually for stable manure in Philadelphia; but they seem obstinately blind to the fact that they might manufacture as much more at home with scarcely any more labor. I kept six dry cows through last winter, upon nothing but cornstalks and oat straw, cut up together with a machine, and they came out in the spring in the best possible condition; and from those six cows, with three horses and four hogs, I made 75 two horse wagon loads of manure, which having no whole stalks or straw among it, was as easy to spread as compost. I hauled 60 loads of this upon three acres of clover land for corn, and some of my neighbors (of the abovementioned class,) told me it was a clear waste to put so much manure upon so little land. Their practice is to put no manure on their cornfields, which generally contain from 12 to 40 acres, and 25 to 30 bushels per acre is considered a fair crop. I told them I thought it better policy to put out one dollar at six per cent, than six dollars at one per cent.

Having seen a difference of opinion in some of the the back numbers of your paper, as to the best mode of applying manure, I determined to try some experiments for myself. Part of the field therefore was manured, and then plowed under immediately, and part was plowed first; the manure then spread and harrowed in; and then the whole field was rolled and struck out in rows three and a half feet apart. A small piece was left without manure, and dressed with unleached ashes. I ought to mention that the land was a light sandy loam, and had been sowed with plaster in February, in order to give as good a start as possible to the clover. Having been much annoyed last year by the black birds, I adopted the plan recommended in various nos. of the Cultivator, of tarring my seed corn. It was soaked 24 hours in hot water, then tarred with a pint of tar to a bushel of corn, rolled in plaster, and planted seven kernels in a hill, intending to thin it to three stalks. The hills were made two feet apart in the rows. More than a week elapsed before I visited the field after it was planted, yet I found no sign of vegetation, and on examining the hills I found only here and there a weak sprout, but almost every kernel rotting. I was not a little disappointed at this result, having been exceedingly careful the preceding fall in saving the best ears for seed, so that it was unlikely that I could find as much more equally good, and moreover I was so driven with work that I could ill spare the time for replanting. However, regrets were useless, so I picked out the best seed I could find in my corn crib, soaked it 24 hours, and then planted it between the hills which were first made. It came up finely, and now looks as well as any about here, though it was planted much later than is usual. I can account for the failure

of the first seed only by charging it to the tar, and yet the utility and safety of that application has been vouched for by more than one good farmer, in the pages of the Cultivator. It may be as well to let your readers know that in one instance at least, it has proved ruinous. If the results of my experiments in manuring will be of any value, I shall be happy to communicate them after harvesting my crop. At present, I see no difference in the appearance of the corn, except that which was dressed with ashes, which is not quite as large as the rest.

I would not have you suppose that I considered 75 loads of manure a large amount to make with the number of animals I kept. Owing to the wet season last year, I was unable to get any swamp muck, and the only additions I could make to the contents of my barn yard, were such refuse vegetable matter as I could collect, and the straw and stalks which were daily cleaned from the stables. In the spring, I had several tons of oat straw and a large stack of stalks remaining, the first of which I have spread in my barnyard and covered with muck, on which to yard my cattle next winter, while the stalks have been made into a compost heap, by mixing in alternate layers with swamp muck and lime.

You can best judge whether any thing I have said is worthy a place in your paper. If so, I shall be pleased to reflect that I have contributed my mite to the treasury of instruction to which I feel myself so much indebted.

Truly yours, H. W. S. C.

Outlands, Burlington, N. J., July 12, 1843.

BARNABY & MOOERS' PATENT SIDE HILL AND LEVEL LAND PLOW.

MESSRS. GAYLORD & TUCKER—Permit me to call the attention of the farming community to the above implement. In my opinion, it possesses many advantages over any other plow in use. I have long thought that a majority of the plows in this section might be very materially improved in their construction; so as to run with more ease for a team, and be held without fatiguing the plowman, and thereby performing the work with more expedition and to much better advantage than is most usually done. Early in the spring of 1842, I sent to Mr. Mooers for one of his plows, intending to use it in breaking up some old pastures for spring crops. Owing to some delay in its transportation, it did not arrive here until late in June following, and consequently I had no opportunity of judging of its merits until last fall, when I broke up with it about twenty acres of greensward. The soil was a stiff clay, and had been used for sheep pasture twenty-one years in succession. When I commenced, I put on a very strong and heavy span of horses, and hitched another horse on forward, with a boy to ride, supposing that it would of course be a heavy draft for the three, as the severe and unprecedented drouth of the previous summer had rendered the ground unusually hard. After I had plowed the first land, I dismissed the boy and the third horse, being absolutely astonished at the perfect ease and celerity, as it were, with which the plow glided through the ground. Nor was I less surprised than pleased at the excellence of the work done. Instead of crowding the furrows out one side, and leaving them standing on their edges, (as our best plows always do,) they were so completely inverted as to not leave a single blade of grass visible between them. The furrows run off from the mold board with such perfect ease and precision, that there is scarcely a break in them from one end of the field to the other, and the land is left in the most admirable order for the seed, being quite mellow on top, and not trowelled down by the mold board in the least degree. I could finish my two acres a day with all ease, with only one span of horses. The past spring, I put the same span of horses on to a "Vergennes plow," so called, the best we have in this vicinity, and a much lighter span on to my "Mooers' plow," and went to breaking up another clay pasture. My hired man took the first, and myself the last, and the way I "whipped out" the big team, with my new plow and small horses, was a caution. Indeed, I am convinced that I can do more and far better work, with one-third less team on this plow, than with any other plow I ever saw; and I would earnestly invite the farming community to procure the plows, and satisfy themselves of their great utility and preference over all others.

I would here suggest to Mr. Mooers the propriety of making an improvement in the handle of his plow. In the first place, they are set rather too low for a man like me, whose head is elevated somewhat over six feet in the world, and who is not inclined to stoop much to things of earth. There is nothing I abhor more in farming, than to see a plowman bending over his plow, pushing and crowding his team before him, his legs hanging back and dragging after him, as if too lazy to keep up. Let him stand up straight between the handles, with head erect, cheering on his team with spirit and animation, and there is no nobler sight seen. Mr. Mooers would also do well to turn the ends of his handles out, so that they will not hit against the plowman's legs as he walks. Yours truly,

Chimney Point, Vt., July 1, 1843. D. C. GOODALE.

SOWING CLOVER IN AUTUMN.

MESSRS. EDITORS—You may perhaps recollect that I was at your office in August, 1841, and made some inquiries with regard to sowing clover in the fall of the year, on dry sandy soils, and mentioned I had a field containing 22 acres, sandy soil, which I intended to try by way

of experiment. I applied 100 loads of barnyard manure and plowed it in the spring of 1840, and planted it with corn; yielded from 30 to 40 bushels per acre. Next spring sowed it with oats; had a middling crop. I applied 100 loads more of barnyard manure after oat harvest, and plowed it under and sowed the field with wheat and rye; after harrowing in the grain, I sowed clover and timothy seed, and went over the field with a bush, and I have now a fine field of clover and timothy, large enough to mow. I think it will do well to sow clover seed early in the fall, on dry sandy soil, if a little manure is applied previous to sowing, as I have frequently known it to fail when sown in the spring.

JOHN R. BLAIR.

Kent, Ct., June 28, 1843.

SHEEP RACKS.

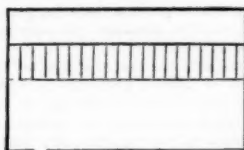
MESSRS. GAYLORD & TUCKER—A writer in the Cultivator for June, 1842, N. Titus of Ohio, says:—"With regard to hay seed and dust, they will get more or less in the wool, on the head and neck; and so they will if fed in board boxes or in racks, or in any way that I am acquainted with, except feeding on the ground." The above assertions put me in mind that I had better communicate, perhaps, my plan, as I wish the best plan to be adopted by my brother farmers; and if any one has, or can improve upon it, I for one certainly will be thankful.

Ten years ago, I planned and built for myself a sheep barn, as I call it, thirty-two feet long and thirty wide, with a rack the whole length on each side; a two inch plank floor over the whole, six feet between joints; a double boarded floor over head, to keep seed and dust from the sheep. I put in studs at an angle, for the frame of the rack; one foot from the floor I put in a two inch plank, 13 inches wide, (the covering of the building made the back side of the rack;) near the center of the plank, in a line, bored three-quarter inch holes, one inch deep. I did the same in the edge of a thick board, four inches apart; cut the rack sticks twelve inches long, about one inch through; inserted one end in the plank, the other in the edge of the board; slipped it down and fastened it; boarded up above, tight to upper floor. I guessed they would stay there. Ten years' use since, by from forty to one hundred sheep, has not displaced one of them. No dust or seed gets in the wool on the head or neck of the sheep.

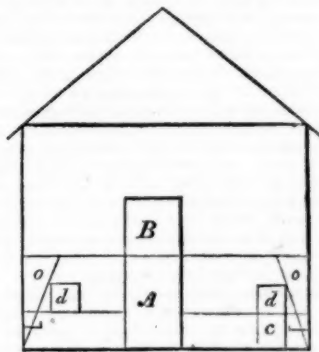
The manure is all under shelter till wanted; the building is boarded up and down, which leaves some cracks, and four windows, two in each end, sufficiently ventilates it. It contains plenty of room over head to contain all the fodder for the sheep the building will accommodate. The rack is six inches wide at the bottom, and two feet six inches at the top; a strip of board, four inches wide, nailed on the outer edge of the plank, makes a very good manger to feed either grain or salt in. No objection can be made to six inches wide at the bottom, as every farmer knows that in taking the hay from a mow, it can be as readily put in edgewise as any other.

It appears to me that a very cheap rack can be made on this plan, to place near a barn or stack; only make it double, and the sheep can eat out of both sides of it.

The barn being built on a division of two lots, I have two doors for the sheep to enter—one at each end. The sheep do well then; one door is left open all winter, and the sheep will as readily go out and in as a man will go out to take exercise and air, or return to get away from the cold and storms.



Front view of Rack and Manger, (Fig. 61).—The space above the rack to be boarded up.



End view of Sheep Barn, (Fig. 62).—A. door to enter, take out manure, &c.—B. door to put in fodder—C. two slip doors for sheep to go in and out, in either lot, being built on division, one on each end—D. four slip windows, two on each end, to open or shut at pleasure—O. o. rack and manger.

Very respectfully yours,
Eastkill, N. Y., 1843.

JOHN BEACH.

FORK FOUND IN THE STOMACH OF A COW.

MESSRS. GAYLORD & TUCKER—In December last, Mr. Martin Bishop, near this town, slaughtered a cow, in whose stomach was found a common two pronged table fork. Regarding the circumstance as unusual, I requested Mr. Bishop to give me some account of it for publication. A few days since, I received from him the fork referred to, together with a part of the sternum, or breast bone, into which it had penetrated. The fork was probably swallowed by the cow while drinking slop from the kitchen. How long it had been in the stomach, is uncertain; but there is no doubt that it would soon have made its way through the body of the animal, which it is likely would have been done without occasioning any farther inconvenience than had already been experienced. From appearances, it would seem that the prongs of the fork first pierced that part of the stomach lying near the posterior termination of the sternum; that the stomach had become firmly attached to the sternum, so that there was no possibility of its contents passing out at the aperture made by the fork; and that the fork had not only passed through the stomach, but nearly through the bone which had opposed its progress. It had entered the sternum at a point between the two last ribs which are attached to it, and had worked in so far, that the points of the prongs had nearly protruded on the opposite side. That part of the stomach around the fork had assumed the form of a tube, resembling, in the language of Mr. Bishop, "a speaking trumpet," the small end attached to the sternum.

I subjoin a brief note from Mr. Bishop, which, with what has been said, exhibits the principal facts of the case. These facts are certainly worthy of preservation, as showing the wonderful economy of nature in preserving her works from injury.

S. H.

Zanesville, O., March, 1843.

"Mr. Howard—The fork and bone which I send you, were taken from a cow which I slaughtered on the 9th of December last. This cow was dried off on or about the middle of September, but not without much difficulty, so great was the flow of milk. The pasture in which she ran was good, and I did not commence feeding her until November, and then only once a day, with corn in the ear. In this way she was fed through November, or until within a week of killing her. The last week of feeding, she was put in a stable, and her feed and water given regularly, three times a day, she continuing to eat large and full meals to the last.

While this cow was living, there was no appearance of disease, except an occasional stiffness in her limbs, but then only in case of her being exposed to cold storms. I can give you no definite idea when this cow could have taken the fork into the stomach; but from all I can learn, it could not have been later than March last, (1842.) The fork, you will perceive, is in a good state of preservation. Respectfully yours,

M. BISHOP."

EXPERIMENT WHEAT.

MESSRS. EDITORS—Five years ago last March, I sowed a bushel of white handsome winter wheat; it came up and grew, spreading over the ground like a mat; the seed stalks sprang up, but very scattering. The produce was half a bushel of badly shrunk wheat. The next spring I sowed, in April, a peck of the best of it; it grew very much as it did the first year; produce, two quarts. The third season, sowed again in April, which grew naturally, like spring wheat; produce, twelve quarts of plump wheat. The fourth year, I did not sow until the middle of May; produce, two bushels of shrunk wheat, which I attribute to late sowing. Fifth year, sowed the two bushels on one acre of ground, April 15th; had the satisfaction of harvesting twenty-seven bushels of handsome, plump wheat. I like the wheat so well, that I have this season sowed eighteen bushels of it. I think it bids fair to be a valuable addition to the wheat family.

S. PECK.

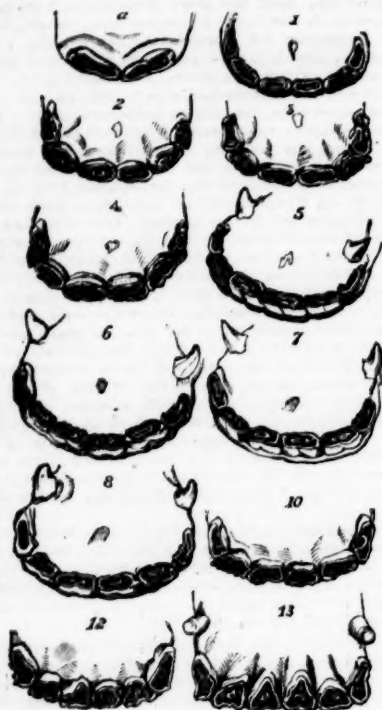
Cazenovia, N. Y., June 26, 1843.

ROTARY KNITTING LOOM.—Mr. Arsamus French of Springfield, Mass., has, after much labor and study, invented a machine which knits stockings and hosiery of all kinds, of perfect shape, without seam or blemish, with a rapidity and cheapness unparalleled. Each machine, (says Mr. George Darracott,) will knit one sock per hour, while one girl can easily tend ten machines, and five hundred machines may be driven by one horse power. Rev. John Pierpont declares it is the greatest mechanical invention of the age. Unlike the clumsy and cumbersome stocking machines of former days, it weighs but three pounds, and may be placed on the centre table of a lady's drawing room. It will knit cotton, woolen, silk, or any fabric, from the finest to the coarsest.—*Fr. paper.*

EXTRAORDINARY YIELD OF CORN.—Mr. Thurston Wood, of Madison county, Indiana, raised from a single grain of corn, last year, nine ears, all sound and good; when shelled, it measured two quarts and nearly half a pint, which contained 4,363 grains.

SWEDISH PROVERBS.—Laziness is the devil's cushion.—Peace cherished is strife banished.—A little cloud can hide both sun and moon.—Unpunished crime only induces to still further crime; bitter must be atoned for by bitter.

Veterinary Department.



The figures above show the appearance of the teeth of the horse, each year, from the time of the appearance of his foal teeth, marked (a.) to 1, 2, 3, 4, 5, 6, 7, 8, 10, 12 and 18 years.

AGE OF ANIMALS.

As the value of most domestic animals is in a great measure depending on their age, considerable attention has been given to the best and most certain modes of determining this point. The modes adopted for the several domesticated ones are different, but up to certain periods are such as to determine the age with great accuracy; after which, there are no positive indications, except such as are more or less general, and therefore vague. Mr. Blaine, in his *Encyclopedia of Rural Sports*, and Mr. Youatt, in his several works on British animals, are authorities which are considered as the standard ones on matters relating to animals.

The age of sheep is known by their having, in their second year, two broad teeth; in their third year, four broad teeth; in their fourth year, six broad teeth; and in their fifth year, eight broad teeth before. After this, while the teeth remain in the head, they afford little certain indication of the animal's age. At the end of one year, young sheep lose the two fore teeth of the lower jaw; at eighteen months, the two teeth joining to the former fall out; and at three years, being all replaced, they are even and white. The ages of all horned sheep may be known by their horns, which show a ring annually to the end of their lives.

The ages of cattle can be determined by the teeth and horns. At the end of two years, they shed their first fore teeth. These are replaced by others larger, but not so white. Before they are five years old, all the incisive teeth are thus shed and renewed. As the animal grows older, the teeth wear down, become unequal and black. Horns are shed at the end of three years, and they are replaced by other horns, which, like the second teeth, always remain. The first year of the new horn, that is, the fourth of the animal's age, a kind of button or ring forms around the base, or near the head. The following year, this button or ring moves from the head, being lengthened by a fresh course of horn between that and the head, and this is also terminated by a button or ring; and in this manner the horns continue to advance or grow as long as the animal lives. Thus the age is easily determined by these rings, counting three for the first, and one for each successive one. Deception is sometimes practiced by filing, scraping, and oiling the horn, so as to eradicate the rings or indications of age.

There is more difficulty in determining the age of the horse than either the sheep or the ox, though up to a certain age, the mouth of the horse, or his teeth, may be relied upon with much certainty. The changes which take place in the teeth, and the time of their appearance, fix his age until he is eight years old, after which, little can be known by them; hence jockeys or horse dealers rarely have horses over eight years of age. The first teeth which appear are the foal teeth, as they are called. These begin to show themselves a few days or weeks after foaling, and at the end of two months, the two center teeth, or nippers, will have reached their natural level, as shown in the cut, fig. a. The teeth continue to successively appear, until forty make their appearance, and become permanent. Of

these, twenty-four are double teeth, or grinders, four tushes, and twelve front teeth, or nippers. Between the second and third month, the second pair of nippers or incisors will have overtaken the first; and between the sixth and ninth month, another pair will show themselves, thus completing the colt's mouth, or making six above and six below. These teeth, in all their stages, are covered with an exceeding hard substance, called enamel. This substance covers the outside of the tooth, above the gum, and, as designed to prevent the tooth from wear, it rises on every side, and seems to fold over and fall towards the center. As the enamel does not meet, a cavity is left, which, owing to food, is kept black or discolored, and it is from the appearance of this mark, and the wearing down of the enamel, that the age is principally determined. "At the age of one and a half years, the mark in the central nippers will be much shorter and fainter; that in the two other pairs will have undergone an evident change, and the nippers will be flat."—(Youatt on the Age of the Horse.)

When the colt is about two and a half years old, the four central nippers (two above and two below,) are shed, although in some few cases these teeth remain till the colt is near three years old. These new teeth are readily distinguished from the first or foal teeth, by being much stronger, and twice their size. "When horses have got these four teeth complete, they are reckoned to be three years old."—(Blaine.) When they are about three and a half, or in the spring before they are four years old, the horse loses four more of his foal teeth, one on each side of those first cast; so that if you see in a horse's mouth the two middle teeth full grown, and none of the foal teeth except the common teeth remaining, you may conclude that he is four that year in April or May. "At three years old, the horse ought to have the central prominent nippers growing—the other two pairs wasting—six grinders in each jaw, above and below—the first and fifth molars level with the others, and the sixth protruding."—(Youatt.)

The tushes, of which the horse has four, two in each jaw, above and below, appear about the same time with the last mentioned teeth, or when the horse is about four years old, and dealers who are anxious to have the horse appear older than he actually is, endeavor to facilitate their growth by deep incisions in the gums, so as to remove all obstructions. One of the surest marks to know a four year old horse is by his tushes, which are then small, and sharp on the top and edges.

At the age of four and a half years, or rather in the spring before he is five, the last distinctly marked change takes place in the mouth of the horse. The corner teeth, or last pair of nippers, are now the most to be noticed. The central nippers come to their growth quickly, or in less than three weeks; but these grow more slowly, and are seldom much above the gums till the horse is full five. They differ also from the other teeth, in somewhat resembling a shell, and hence some call them shell teeth, and because they encircle the flesh in the middle, half way round; but as they grow, the flesh disappears, and a distinct hollow or open place appears on the inside of the tooth. "Where a horse is full five, these teeth are about the thickness of a crown piece above the gum; from five to five and a half they will grow about a quarter of an inch high, or more; and when a horse is full six, they will be near half an inch, and in some large horses a full half inch above the gums."—(Blaine.) At the age of six years, or perhaps a few months before, the horse may be said to have a perfect mouth; all the teeth are produced, fully grown, and have as yet received no material injury or change from use.

When the horse has reached the age of seven years, the central mark, or hollow in the teeth, has been worn away from the four central nippers, and is fast wearing away in the corner teeth, while the tushes are changed by growing round at the point, and rounded at the edges. At eight years old, the mark is said to be out of the mouth, as in most cases it is worn from all the bottom nippers; and from this time, says Mr. Youatt, "there is nothing that can clearly show the age of the horse, or justify the most experienced examiner in giving a positive opinion." Dishonest dealers sometimes endeavor to make the horse appear older than he is, by pulling out the foal teeth before their time; but this may be detected by an examination of the tushes, for if the corner or last set of the nippers come in some months before the tushes rise in the gums, it may be reasonably suspected that the foal teeth have been pulled at three years old. So when a horse is past eight years, and the marks are worn out, such dealers have a practice of cutting out, with a graving tool, the central portion of the tooth, which hole is afterwards burned with a hot iron, and thus permanently discolored. By such rascalities, many have been imposed upon, and the name of horse dealer brought into contempt.

After a horse has passed his eighth year, little can be known by his mouth, though experienced observers may find indications to assist them in arriving at the truth. There are gradual changes taking place in the appearance of the teeth, and in the exterior of the animal, that mark the advances of age. Blaine says:—"When a horse comes to be very old, it may be discovered by several indications, the constant attendants of age; such as his gums wearing away insensibly, leaving the teeth long and naked at the roots; the teeth growing yellow, or rather brownish at the same time. In an old horse, the bars of the mouth, which in a young horse are fleshy and form distinct ridges, are lean, dry, and have

little or no rising. The eye-pits in a young horse are generally filled up with flesh, look plump and smooth; in an old horse, they are sunk and hollow, and make him look ghastly. There are also other marks which discover a horse to be old, as grey horses turning white, and many of them being all over flea-bitten except their joints. These changes, however, come sooner or later, according to constitution, color, &c. Black horses are apt to grow grey over their eye-brows, and very often over a large part of their faces. Old horses always sink more or less in their backs, and some that are naturally long backed grow so hollow with age as to be unfit for the saddle."

Farmers and others who purchase a horse for work, we think make mistakes frequently as to the most profitable age, when severe or continued service is required. Many who wished to purchase, would choose one of four years old; but we are convinced that a horse that is sound and has been well treated, will do more work between six and twelve than in any other six years of his life. At that age, he is in his prime for vigor and strength; his muscles have acquired firmness and maturity; and his bones being compact and solid, are not liable to become displaced or deformed from exertion—a result very common, when put to hard work at an earlier age.

GAPES IN CHICKENS.

MESSRS. GAYLORD & TUCKER—Can you furnish me through the medium of the Cultivator, with a cure for the gapes in chickens. I have tried soap, assafetida, spirits of turpentine, &c. but without success. Three-fourths of my chickens are dying with this disease. It appears to be produced by small worms in the throat.

Whalen's Store, June 30, 1843.

SETH WHALEN.

As a preventive is said to be better than a cure, we will first give one pronounced by Maj. Chandler, in the *Tennessee Agriculturist*, to be infallible. The simple nature of the prescription should not prevent a trial. "Keep iron standing in vinegar, and put a little of the liquid in the food every few days. Chickens so fed are secure from the gapes."

For a cure, freeing the throat from the worms spoken of by Mr. W. will be effectual. This is easily done by a feather, say one from a hen's wing. This is to be stripped of the feather, with the exception of about an inch at the end, which is to be turned back from the point, which should be rolled a little. The chicken is to be caught and firmly held with his neck straight and bill open, by another person. Wet the end of the feather, and introduce it into the windpipe, the opening of which will be seen when the animal breathes. Push it down slowly some two or three inches, and then draw it out, turning the feather as you do so. Usually the worms will adhere to the feather, or be loosened so that the chicken will sneeze them up. A second operation may sometimes be necessary, rarely more, to make the cure perfect. The feather should be wet before it is put down the throat, and perhaps spirits of turpentine might do well for this purpose, and might aid in the destruction of the worms. The turning of the feather, however, appears to be the main thing. Boswell, in his *Poultry Yard*, recommends a pepper corn in dough occasionally, washing the head and throat in camphorated spirit or brandy and water, and giving sulphur in their drink. We should, however, have more confidence in the feather than any thing else, and think when skillfully used it will rarely fail to cure.

LAMENESS IN THE HORSE.

MESSRS. EDITORS—I have a young filly that I raised, that has been lame for some time, and her right hip has perished as does the shoulder in the disease called swanney or swiney. I should be glad to learn from you a remedy; or whether the swiney is ever known in the hip.

JACOB MILLER.

Caneyville, Ky., 1843.

We have never seen a case similar to the one described by our correspondent, and the veterinary works are silent on the subject; consequently are unable to give the information he solicits. If any of our friends are acquainted with the complaint and its cure, they will oblige us by communicating such knowledge for publication.

TO WASH WOOLEN GOODS.—The art of washing woolen goods so as to prevent them from shrinking, is one of the desiderata in domestic economy worthy of being recorded, and it is therefore with satisfaction that we explain this simple process to our readers. All descriptions of woolen goods should be washed in very hot water with soap, and as soon as the article is cleansed, immerse it in cold water; let it then be wrung and hung up to dry.—*Ex. paper.*

MARKING INK.—Take six and a quarter cents worth of Lunar caustic, and having put it into an ounce vial full of vinegar, cork it tight and hang it in the sun. In a couple of days it will be fit for use.

To make the preparation for the above, take a lump of pearlash of the size of a chestnut and dissolve it in a gill of rain water.

The part of the muslin to be written upon, is to be wet with the preparation, and dried and glazed with a warm flat iron; immediately after which, it is ready for marking.—*Louisville Journal.*

The Garden and the Orchard.

CULTURE OF FLOWERS.

We hail with pleasure every indication of increased attention to the architecture of our dwellings, combining elegance and simplicity of structure, with convenience and comfort in use; every proof of increasing taste in the arrangement and disposition of the farm buildings, every new addition made to the orchard or fruit garden, as a fresh contribution to the happiness of the owner; nor do we view with less satisfaction the evident impulse which the culture of flowers has received within a few years. It is true the selection and arrangement may not always be in the best taste; but a great point has been gained, the culture has commenced, and time and experience will correct the minor difficulties that beset the way of the lover of flowers. It is but a few years since flowering shrubs and plants were a rarity, unless indeed some of the most common kinds, such as the rose or the pink. Now, mingled with these, may be found the dahlia, honeysuckle, hydrangeas, tulips, and the multitude of other beautiful flowers which have been introduced and acclimated among us, to meet the demand which an improved and cultivated taste in these matters has created.

We repeat that we hail with pleasure the indications that meet us every where, that the culture of flowers is increasing; that the fair hands of American wives and daughters find a pleasure in planting, watering, and training those choice productions of nature; and that the farmer in his yards, finds flowers instead of grass or weeds, while the daily replenished flower pot of the sitting room, gladdens the senses and causes the fatigue of the field to be half forgotten in its beauty and perfume. All these are indications of good; of multiplied rational enjoyments; of increased domestic comforts and happiness; of a less ardent hankering after wealth alone; and of an improved and more refined taste.

It is true we may here be met with a cold calculating *cui bono?* What good will the culture of flowers do? Will they add to our food or raiment? Will they increase our wealth? Will they be meat and drink to us? If not, what are they good for, and why recommend their culture? We answer, because that eating and drinking, and wealth, and fine apparel, are not the only, or indeed the most common means of happiness, and in themselves are very far from constituting the great end and aim of human existence; because the observer of nature is insensibly and almost necessarily led to "look through nature up to nature's God;" because the presence of the beautiful in nature has a tendency to elevate and refine the mind; and because the contemplation of beautiful objects has a more controlling and enduring influence on the character and destiny of man from his earliest to his latest hour, than almost any other influence that can be brought to bear upon them. Every thing that has a tendency to make home delightful, that strengthens the social affections, that betokens and inculcates purity and neatness, that furnishes incentives to industry, that gives rational and innocent amusement, while it adds to our stock of useful knowledge, is surely deserving of commendation and adoption. The culture of flowers does all these things, and more, and are they to be cast aside as nothing worth?

We trust there is not a farmer in the state, we do not believe there is one, but would feel better pleased to find his humble cottage windows shaded with the climbing or Michigan rose, his porch covered with the neatly trained honeysuckle, his limited yard filled with shrubbery and flowers, among which his children are playing, and in tending which the elder ones find a pleasing employment, than to come from his daily toil to find his house and yards naked and unornamented, his children dirty from playing in the street, and his wife and daughters spinning street yarn, or retailing scandal. Will not these widely contrasting influences have a corresponding effect on the man—on the whole family? There is another reason why we love to witness the extension of flower culture. It is because it is principally conducted by women, and nothing can more contribute to their health, their spirits, and their general welfare, than some interesting employment, that shall keep them more in the pure air, and give that exercise so essential to the human constitution. If American women would spend an hour or two daily in their gardens or yards, tending their flowers, planting, training, weeding, far, far better would it be for them than the indulgence of those sedentary habits which take the lead in the long train of causes which are annually consigning to a premature grave so many of the young and beautiful of our country. Let every one then cultivate flowers. They require little space, they furnish a necessary and a tasteful employment, they cost comparatively nothing, and they contribute much to the happiness which forms the grand object of pursuit with all.

A NEW ENEMY OF THE APPLE TREE.

We perceive from a letter of Dr. Harris, published in a late number of the Mass. Plowman, that the insect which has caused such serious losses to the growers of the pear, by producing the disease called the *fire blight*, has attacked the apple tree, and promises, where undisturbed, to destroy them as effectually as it does the pear tree. This insect is a small beetle, called the *Scolytus pyri*, one-tenth of an inch long, and of a deep brown color. It deposits its egg in the buds, from the roots of which the worm or grub penetrates towards the pith of the branch, around which it passes, making a circular

burrow between the bark and the pith, thus cutting off the circulation of the sap, and giving to the branches that withered, blighted appearance, from which the common name of the disease is derived. The remedy is to cut off the branch below the part injured, and burning it before the insect has left it. To secure this object, and experience proves that it will be successful when promptly and fully carried out, the branch must be cut off as soon as the leaves begin to wither; and sufficiently low to ensure the destruction of all the worm eaten buds. This course has saved the pear in many orchards, and there is no doubt it will be equally successful with the apple, should the attacks of this insect become generally extended to that tree.

MANAGEMENT OF FRUIT TREES.

MESSRS. EDITORS.—The article in the June number of the present vol. of your paper, headed the Peach tree, requires some notice, and probably a much more extended one than my time will admit of at present. In the first place, allow me to say that the disease of the peach tree called and known as the yellows, is not contagious, and I will hold myself ready to prove, not theoretically or speculatively, but practically, that there is no such thing as a healthy peach tree being infected by another, standing adjacent and having the yellows. I will not say that this or any other disease cannot be inoculated; but if it can, I have not been able to do it in several experiments made for the purpose.

I will endeavor to detail some of my experiments and observations in regard to the yellows, &c., and believe that I can show it to be the result of error in their culture. This farm had upon it in 1836, a small apple orchard, the trees standing at distances of 32 feet; between the rows of apple trees, peach trees were planted, at distances of 16 feet, tree from tree. The peach trees were in a very unhealthy condition, some of them being in the last stage of the disease called the yellows, ceased to live after that year; others not so bad, but having the disease in its worst form, (every part of the tree being affected,) received my care and attention. My first desire was to get rid of the peach worm, which I readily accomplished by the use of salt and saltpetre around the trunks of the trees, &c., and at the same time I gave to those trees producing good fruit, a top dressing of manure. In 1838-39, my orchard was entirely free from the worm, and appeared in a healthy condition, with the loss of only 3 trees out of about 40 that had the yellows.

The orchard being in good health, I resolved to test my then theoretical views; having planted a few trees to supply me with fruit in case these should be destroyed, I went more cheerfully to work and selected eight trees standing in a row, and had the ground manured for about 10 or 12 feet on each side of the row of trees; it was then plowed and potatoes were planted in every third furrow, this furrow receiving an additional quantity of manure. The balance of the orchard was plowed during the month of September; a part thereof received a dressing of manure and was plowed in; another part was manured after being plowed, and a third part without manure; the whole orchard was sown with wheat, and the following spring with clover. The effect was that a large majority of the peach trees showed some symptoms of disease, but more perceptible on those where there was no manure, where the manure was turned under and where the potatoes were planted. Of the 8 trees where the potatoes were planted, I was resolved on saving 4 of them if possible, for here I thought the greatest amount of injury was done, (though I have thought differently upon this subject since,) yet in this case the injury met my fullest expectation, and the 4 trees unattended to had the yellows and were about to die, when Mr. J. L. McKnight and a friend of his, both living in or near Bordentown, N. J., and both peach growers, came to see my orchard; these gentlemen pointing to three of these trees, asked if I could cure them; I told them it might be possible, but they were very far gone; their remark was that they thought these trees could not be restored to health. The middle one of these 3 trees being most diseased, was selected by me to be cured, and if Mr. McKnight and his friend will call and see me in September next, I will promise to give them some perfectly sound fruit, to be gathered from this tree, though the fruit is not of a very good kind. The other two trees died for want of attention, and were cut down this spring. Now this is one instance, of which I have ample testimony, of this disease being curable; though it is not the first instance of cure with me by very many. The disease was produced by the plow, and the cure by rest, with a top dressing of stable manure and ashes.

I deem it unnecessary to say any thing more about my orchard at present, but beg your indulgence to permit me to ask attention to the effect produced from plowing orchards. A person living within 2 miles of me, has an apple orchard that was to within the last 3 years, a most prolific orchard, but in consequence of some of the trees putting on the appearance of decay, he thought that to manure it and plow it would be of service; this he did three years ago, and the orchard producing no fruit the next year, and the trees appearing more unhealthy, he manured and plowed again; but still he has no fruit, and his trees are growing worse instead of better. Another person about 7 miles distant, has an apple orchard that he had worked in corn three years ago; one of his people being at my house the year following, I inquired if there was any fruit on the trees: "No! the frost has killed all the apples." I then asked him about trees standing in different parts of the orchard, where I knew they could not plow, and was told that these trees were

full of fruit, and that the "frost did not hurt them." I desired him to say, the next time he was asked why these trees were full of fruit and the others not, that they could not injure them with the plow. I could give very many instances of this kind, but my object being to call attention to this matter, I will ask every one to make his own observations and comparisons; let every farmer look into his neighbor's orchard and his own, and see what the effect of plowing is when compared with the unplowed orchard adjacent to that plowed; let him call to recollection the fine orchard planted by his father, that is going into decay, and ask himself the cause, and he will receive more knowledge upon this subject than could be derived from volumes written upon orchards—though I would strongly recommend the perusal of all works written upon the subject of our business; the avocations of life are always promoted by a proper and strict inquiry after truth, and no agent should be neglected to the advancement of so desirable an end.

My system is to work a tree just as I do the corn plant; the one as an annual, the other as a perennial; give the tree all the cultivation it is to have while young, and before a set of organs are wanted for the perdurable formation of fruit, and when the tree puts on the appearance of premature decay, I give to it a coat of manure spread upon the surface of the ground: this I apply in the fall of the year, always preferring long to short manure, and when ashes are deemed necessary I have put them on in the spring.

Shall I say a word here about peach trees 30 or 40 years ago, which Mr. Downing represents to have grown any where in the United States, south of the 43° of latitude. Well, 40 years ago there was but little demand for peaches as a market fruit, and they were for the most part converted into pork and brandy. For these purposes, it did not answer at that period of time, to pick them off the trees by hand, but a neat grass lay was considered as indispensable to facilitate their collection, as step ladders are at the present day. The peaches then were shook off the trees, and the best selected, either for drying or for the still, and the hogs disposed of the balance.

There were several reasons why orchards were not destroyed at that time by tillage, and perhaps the most prominent one was that a grain crop in the orchard would prevent or retard the gathering of the peaches, which by the by, were worth more than any grain crop that could be grown in the orchard; but whenever an old peach orchard was plowed a few times, a new one had to be planted, or at least such was the case 30 years ago, on some farms, to my certain knowledge. I do not wish to be understood that the peach tree can be grown at the present time with the same facility it could then, for I have no doubt that the pabulum necessary for the support of this tree, has become in a great measure exhausted from the soil—but I presume it can be restored—if so, we must get "the neighbors" to resuscitate their soils and to form a good stock by proper tillage; but when the trees come into full bearing, we must then feel satisfied with whatever nature may be pleased to do in the premises, for any stirring of the soil after this period of growth is obtained, has a tendency to bring the orchard into decay, of which I can show hundreds of surviving witnesses.

A careful inquiry will show that the peach tree began to decline about the close of our last war with England; grain commanding a very high price at that time, peaches were only considered in a secondary point of view, and orchards that probably had not been disturbed with the plow for 15 or 20 years previous, were then put in wheat, corn, &c. This soon brought the orchard into decay, and in many instances they were not replaced; and when replanted, they have been treated very differently from the original. We must now have a crop of grain, grass or roots, but in former times such things were not expected from a peach orchard after it began to produce full crops of fruit.

You have told us how to plow, manure, work and embellish our lands, to gather and secure our crops, with a long list of etceteras, but there is one matter that I think is overlooked, and requires more attention than appears at first view—and if not the base of Mr. Comstock's proposed system for his million of dollars, is and has been mine for years; and that is, how long a plant can be cultivated without injury to the growing crop, or at what stage of growth should we cease to work a plant to obtain its greatest yield.

I have heretofore given my views in regard to Indian corn, and I will now give some experiments made several years ago for my own satisfaction; but there has been no repetition of these experiments, as they fully corresponded with my views before making them. 1st. Two double rows, (25 yards in length,) of peas were planted, with an alley of three feet between the rows; they were all hoed when the pea vine was about 8 inches high, and at this time supports were placed to one of the rows. The other row was left without supports till the first blossoms made their appearance, when it was hoed again and then stuck. The pea vine in the first row, attained the height of about 3 feet 6 inches, and bore abundantly. The row hoed, when coming into bloom, attained the height of about 28 inches, and the crop was not equal to one-fourth of the first row. 2d. Two double rows of bush beans were selected and treated with the hoe in like manner, but here the result was somewhat different; the beans hoed, when coming into bloom were checked in growth; but in a few days new branches began to push forth, and upon these branches the beans were good, but on the first branches the pods were short and defective, and the crop not equal to the first row. The roots of some of these vines were carefully examined, but to speak of this part of the plant in this communication,

